

Type specimens of mammals (Mammalia) in the collections of the Zoologisches Forschungsmuseum Alexander Koenig, Bonn

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Abstract. An annotated catalogue of type specimens of Mammalia in the collections of the Zoologisches Forschungsmuseum Alexander Koenig in Bonn is given. By the end of 2010, the Bonn collections housed name-bearing types (five syn-, 77 holo-, two lecto- and one neotype) for 85 taxa and para- and paralectotypes for 105 taxa. Casts of rare type specimens of 3 extinct taxa are also listed. The collections also include vouchers for karyotypes and GenBank entries. A lectotype is selected for *Microtus savii niethammericus* Contoli, 2003, and replacement names are proposed for homonyms of two preoccupied taxa, *Apodemus maximus* Thaler, 1972 (Muridae) and *Sciurus vulgaris hoffmanni* Valverde, 1967 (Sciuridae).

Key words. Taxonomy, types, vouchers, chromosomes, genetic sequences, mammal diversity.

INTRODUCTION

Biological collections of the world preserve the voucher specimens on which our knowledge of the biodiversity on our planet is based. Article 72.10 of the Code (ICZN 1999) states that, "Holotypes, syntypes, lectotypes and neotypes are the bearers of the scientific names of all nominal species-group taxa (and indirectly of all animal taxa). They are the international standards of reference that provide objectivity in zoological nomenclature and must be cared as such. They are to be held in trust for science by the persons responsible for their safe keeping." Recommendation 72F includes the following formulations "Every institution in which name-bearing types are deposited should (2) take all necessary steps for their safe preservation, (3) make them accessible for study, (4) publish lists of name-bearing types in its possession or custody, and (5) so far as possible, communicate information concerning name-bearing types when requested."

The collections of Mammalia in the Zoologisches Forschungsmuseum Alexander Koenig house more than 90000 specimens representing about 1800 species, i.e. about 33% of the known extant mammalian diversity. These collections form part of the world holdings of mammalian archives (Genoways & Schlitter 1981) and have contributed, among others, to the production of taxonomic standard works such as the current world list of mammalian species (Wilson & Reeder 2005).

The first type catalogue of mammals in the Zoologisches Forschungsmuseum Alexander Koenig was published more than 25 years ago (Hutterer 1984). Here we present an updated annotated list of the name-bearing types (holotype, syntype, lectotype, neotype), but also of paratypes and paralectotypes, as these form part of the original type series and are available for the selection of neotypes, if required (Article 75, Recommendation 75A, ICZN 1999). In a few cases we have also listed casts of type specimens from other institutions in order to facilitate access to the types of some extinct species. The collections also include vouchers for chromosome counts and for genetic sequences. If available, such information has been mentioned but it was not possible to compile a full list of such voucher specimens. As GenBank entries already play an important role in the study of mammalian phylogeny and taxonomy, cross-references to the vouchers on which the genetic sequences were based will become more and more important in order to ensure scientific objectivity and to enable verification of correctness of specimen identifications when indicated. Figures listed for the respective original description of a taxon are all figures in that publication which show features of the new taxon.

The present list is compiled in the style of other modern examples such as Lawrence (1993), Turni et al. (2007) and Turni & Kock (2008). The systematics, sequence of or-

ders and families within orders follows Wilson & Reeder (2005). Likewise, the taxonomy largely follows the respective chapters in Wilson & Reeder (2005), particularly those on soricomorphs (Hutterer 2005), rodents (Musser & Carleton 2005), glirids (Holden 2005), sciurids (Thorington & Hoffmann 2005) and artiodactyls (Grubb 2005). We included no figures in this catalogue as photographs of many of the ZFMK type specimens are available online through the Global Biodiversity Information Facility (http://www.biologie.uni-ulm.de/cgi-bin/query_all/query_all.pl?lang=d&pr=gbif-v1).

Abbreviations for museum collections used:

AMNH = American Museum of Natural History, New York, USA,
 BMNH = The Natural History Museum, London, UK,
 CM = Carnegie Museum, Pittsburgh, USA,
 FMNH = Field Museum of Natural History, Chicago, USA,
 HNHM = Hungarian Natural History Museum, Budapest, Hungary,
 HZM = Harrison Zoological Museum, Sevenoaks, UK,
 IZEA = Institut de zoologie et d'écologie animale, Lausanne, Switzerland,
 MNHN = Muséum National d'Histoire Naturelle, Paris, France,
 NMP = National Museum of the Philippines, Manila, The Philippines,
 NMW = Naturhistorisches Museum Wien, Vienna, Austria,
 QM = Queensland Museum, Brisbane, Australia,
 PBS = Paimpont Biological Station of Rennes University, France,
 RMCA = Royal Museum for Central Africa, Tervuren, Belgium,
 SMF = Senckenberg Museum, Frankfurt, Germany,
 SMNS = Staatliches Museum für Naturkunde, Stuttgart, Germany,
 TM = Transvaal Museum, now Ditsong National Museum of Natural History, Pretoria, South Africa,
 ZFMK = Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany,
 ZIN = Zoological Institute of the Academy of Sciences, Moscow, Russia,
 ZMB = Zoologisches Museum der Humboldt-Universität, Berlin, Germany.

CATALOGUE OF TYPE SPECIMENS

MONOTREMATA

Ornithorhynchidae

Obdurodon dicksoni Archer, Jenkins, Hand, Murray & Godthelp, 1992

In: Platypus and Echidnas (Augee ML, ed.): 16, figs. 1–8
Material. ZFMK 95.167, cast of holotype skull QM F20568, Middle Miocene sediments of Riversleigh, Australia.

Current status. *Obdurodon dicksoni* Archer, Jenkins, Hand, Murray & Godthelp, 1992.

Comments. Cast donated by I. Rocek in 1995. A full reconstruction of skull and dentary was provided by Musser & Archer (1998).

AFROTHERIA

Chrysochloridae

Eremitalpa granti namibensis Bauer & J. Niethammer, 1960

Bonn. zool. Beitr. 10: 241, fig. 2 (10 Jan)

Holotype. ZFMK 59.513, cranium and mandible taken from owl pellets, in good condition; Sossus Vley, Namib Desert, Namibia, collected by G. Niethammer, Feb 1959, field no. 47.

Paratypes. ZFMK 59.514 (40 skulls), and further 16 uncatalogued skulls plus uncounted postcranial elements, all from the same locality and collector.

Current status. *Eremitalpa granti namibensis* Bauer & J. Niethammer, 1960.

Comments. Further paratypes are in the AMNH, NMW and TM.

MACROSCELIDEA

Macroscelididae

Elephantulus intufi omahekensis Lehmann, 1955

Bonn. zool. Beitr. 6: 171

Holotype. ZFMK 55.74, female, skin and skull; Kl. Okaputa, Namibia, collected by W. Hoesch, 16 Oct 1954, field no. M. 1130.

Paratypes. ZFMK 55.78, 55.120–55.125, 4 males, 3 females, skins and skulls, same locality and collector as holotype, 14–18 Oct 1954.

Current name. *Elephantulus intufi* (A. Smith, 1836).

CINGULATA

Dasypodidae

Cabassous chacoensis Wetzel, 1980

Ann. Carnegie Mus. 49: 335, fig. 2 (5 Sept)

Paratype. ZFMK 60.317, adult female, skin and skull; Filadelfia, Paraguay, collected by J. Unger, 10 Dec 1958, field no. 448.

Current status. *Cabassous chacoensis* Wetzel, 1980.

Comments. Holotype CM 67067, taken at 5–7 km W Estancia Juan de Zalazar, Depto. Presidente Hayes, Paraguay (Wetzel 1980).

LAGOMORPHA

Ochotonidae

Lagomys ater Eversmann, 1842

Addenda ad Celeberrimi Pallasii Zoographiam Rosso-Asiaticam, Fasc. 3: 3.

Material. Possible paralectotype (see below), ZFMK 88.64, juvenile female, mount and skull (extracted in 1988); Russia, Altai, sold by J.G.W. Brandt 1851 to the Zoological Institute Heidelberg (No. 391), exchanged in 1988.

Current name. *Ochotona alpina atra* (Eversmann, 1842) or *Ochotona a. alpina* (Pallas, 1773); see Lisovsky (2003).

Comments. Johann Georg Wilhelm Brandt (1794–1856) opened a warehouse for natural history specimens in Hamburg in 1827. He had world-wide connections to travelers and collectors (Stresemann 1967). It is likely, but not certain, that he purchased specimens from Eduard Eversmann (1794–1860), a German explorer and scientist who held a professorship at the University of Kazan in Russia for several decades and who sold specimens to German museums such as the Berlin Museum (Gebhard 1964). *Lagomys ater* was collected in the Altai Mountains, as stated on the label of the ZFMK specimen. Lisovsky (2003) discussed the status of the Altai pika *Ochotona alpina* (Pallas, 1773) and the type locality and type series of *O. a. atra* (Eversmann, 1842). There are three specimens of *Ochotona a. atra* collected by Eversmann in 1841 in the ZIN. Yakhontov & Formozov (1992) designated ZIN 84398 as lectotype, and the other two specimens are paralectotypes. Provided that Eversmann distributed other specimens from his type series among German museums, ZFMK 88.64 could be a further paralectotype.

Leporidae

Pronolagus randensis waterbergensis Hoesch & Lehmann, 1956

Bonn. Zool. Beitr. 7: 32, fig. 6

Holotype. ZFMK 34.144, male, skin and skull; Otjosongombe, Waterberg, Namibia, caught by W. Hoesch, 1 June 1934, field no. XXXI.

Current name. *Pronolagus randensis caucinus* Thomas, 1929 (Hoffmann & Smith 2005),

ERINACEOMORPHA

Erinaceidae

Erinaceus algirus girbaensis Vesmanis, 1981

Bonn. zool. Beitr. 31: 207, figs. 1–4 (29 Jan 1981)

Holotype. ZFMK 79.464, skin and skull; Djerba Island, Tunisia, collected May 1932, purchased from Fritsche.

Paratype. ZFMK 79.463, skin and skull, same data as holotype.

Current status. *Atelerix algirus girbaensis* (Vesmanis, 1981) (Corbet 1988).

SORICOMORPHA

Soricidae

Congosorex verheyeni Hutterer, Barriere & Colyn, 2001
Bull. Inst. Royal Sci. Nat. Belg., Biol. 72, Suppl.: 10, figs. 1–6 (20 Dec 2001)

Holotype. ZFMK 99.932, female, specimen preserved in spirit and skull; Mbomo, Parc National d'Odzala, Republic of the Congo, collected by members of the ECOFAC team, 19 Oct 1996, field no. R16761.

Current name. *Congosorex verheyeni* Hutterer, Barriere & Colyn, 2002.

Comments. Paratypes in MNHN, RMCA and in PBS.

Congosorex phillipsorum Stanley, Rogers & Hutterer, 2005

J. Zool., London 265: 271, figs. 3–8

Paratype. ZFMK 2009.631 (formerly FMNH 169493), alcoholic specimen, skull removed; West Kilombero Scarp, 2062 m, Udzungwa Mts, Iringa District, Iringa Region, Tanzania; collected by K.M. Howell, 15 Jul 2000, field no. KMH 19125.

Current name. *Congosorex phillipsorum* Stanley, Rogers & Hutterer, 2005.

Comments. Holotype in FMNH.

Crocidura arabica Hutterer & Harrison, 1988

Bonn. zool. Beitr. 39: 64, figs. 3, 5, 6

Paratype. ZFMK 88.14, cranial fragment taken from owl pellet; near Tawi Atair, Jebel Samhan, Dhofar, Oman, collected by M.D. Gallagher, 9 Apr 1977; donated by D.L. Harrison (HZM 19.8767).**Current status.** *Crocidura arabica* Hutterer & Harrison, 1988.***Crocidura ariadne*** Pieper, 1979

Bonn. zool. Beitr. 29: 282, figs. 1–6 (30 Jan)

Holotype. ZFMK 78.100, cranial fragment taken from owl pellet; Agia Pnevma, Crete, Greece, collected by Harald Pieper, 23 Sept 1973.**Current status.** *Crocidura suaveolens canaeae* (Hutterer 1981).***Crocidura batakorum*** Hutterer, 2007

Lynx (Praha) n.s. 38: 11, figs. 5–8

Holotype. ZFMK 96.411, old adult male(?), specimen in spirit, skull extracted, part of left braincase damaged; Tanabag River Valley near village Kalabayog (09°44'N, 118°43'E), ca. 60 km N Puerto Princesa, Palawan, Republic of the Philippines, 200 m, collected by S. Büchner, 10 Mar 1992.**Current name.** *Crocidura batakorum* Hutterer, 2007.**Comments.** Status confirmed by Esselstyn et al. (2009).***Crocidura (bottegi) obscurior*** Heim de Balsac, 1958

Mém. Inst. fr. Afr. noire 53: 328, fig. 24

Paratype. ZFMK 59.499, female preserved in spirit, skull extracted and lost; “Fôrèt Zièla”, 500 m, Mount Nimba, Guinea, collected by M. Lamotte, 24 Oct 1956, collector's no. 59.**Current name.** *Crocidura obscurior* Heim de Balsac, 1958**Comments.** Specimen donated to M. Eisentraut by H. Heim de Balsac. Holotype probably in MNHN.***Crocidura canariensis*** Hutterer, López-Jurado & Vogel, 1987

J. nat. Hist. 21: 1354, figs. 2–4

Holotype. ZFMK 86.75 (transferred to Museo Canario at Las Palmas in 1987), adult male, specimen preserved in spirit, skull and mandibles extracted; offspring of animals collected at La Tiscamanita, N Tuineje, Fuerteventura, Canary Islands, Spain, by L. F. López-Jurado, 30 Jan 1985. Chromosome slides (IZEA 2331; Hutterer et al. 1990, fig. 2) and frozen tissue kept at IZEA, Lausanne.**Paratypes.** ZFMK 86.76, 86.370, two females in alcohol, same data as holotype; ZFMK 86.72–74, three skeletons, same data as holotype; ZFMK 86.371, skin from La Oliva, Fuerteventura, Nov 1984; ZFMK 86.372, skin from Malpais de los Arravalcs, Fuerteventura; ZFMK 86.374–

380, skulls from owl pellets collected near Gran Tarajal, Fuerteventura, all collected by L. F. López-Jurado.

Current name. *Crocidura canariensis* Hutterer, López-Jurado & Vogel, 1987.**Comments.** Holotype ZFMK 86.75 is voucher for the GenBank sequences EF525043 and EF525160 (IZEA 2331, Dubey et al. 2008). Paratype ZFMK 86.76 is voucher for the chromosome count $2n = 36$, $NF = 56$, $NFa = 52$ in Hutterer et al. (1992), table 1 (IZEA voucher 2332).***Crocidura flavescens bueae*** Heim de Balsac & Barloy, 1966

Mammalia 30: 631

Paratype. ZFMK 78.004, skin and skull of a juvenile female; garden of mission, Buea, ca. 1000 m, Cameroon, collected by M. Eisentraut, 26 Jan 1954, field no. 54, received in exchange from SMNS in 1978 (catalogue no. SMNS 5561)**Current name.** *Crocidura olivieri bueae* Heim de Balsac & Barloy, 1966.**Comments.** The holotype out of the same series (“femelle, No. 53, Missionsgarten, Buea (Eisentraut ...)”) was in the working collection of Heim de Balsac and today is in the MNHN, Paris. In their short description the authors stated “Cotypes à choisir parmi les specimens de Buea, au Musée de Bonn”. The series collected by Eisentraut near Buea in 1954 and 1957 and studied by Heim de Balsac ended up at the SMNS, though. Apart from the paratype in the ZFMK collection which was received in exchange in 1978, there are three more paratypes in the SMNS with the collection nos. SMNS 5559 (field no. 35), 5560 (field no. 49) and 6561 (field no. 11).***Crocidura flavescens hausruppi*** Hutterer, 1981

Bonn. zool. Beitr. 31: 226, fig. 3 (29 Jan)

Paratype. ZFMK 80.265, female, skin and skull; Jimma, Kaffa Province, Ethiopia, collected by H. Rupp, 23 Aug 1973, collector's no. 477; received in exchange from Stuttgart Museum (SMNS 23703), Apr 1980.**Current name.** *Crocidura olivieri* group, status unresolved (Hutterer 2005).**Comments.** This form represents a dark chocolate-brown forest form of the *C. olivieri* group in Ethiopia, the variation of which is still poorly understood.***Crocidura lamottei elegans*** Hutterer, 1986

Cimbebasia, Ser. A., 8: 29

Holotype. ZFMK 76.009, male, skin and skull; Bandia, Senegal, collected by W. Böhme, W. Hartwig and H. Ulllenbruch, 9–20 Jan 1976, field no 279.**Paratype.** ZFMK 76.010, female, skin and skull, same data as holotype, field no. 234.**Current name.** *Crocidura lamottei elegans* Hutterer, 1986.

Crocidura lanosa Heim de Balsac, 1968

Biol. Gabonica 4: 309, figs. 1–4

Paratypes. ZFMK 89.458, 89.460, unsexed skins and skulls; Uwinka, Rwanda, collected by U. Rahm, 10 Jun 1962, field no. E665, E657; ZFMK 89.459, female, skin and skull; Lemera, Kivu province, Democratic Republic of the Congo, collected by U. Rahm, 19 Oct 1962. Specimens donated by U. Rahm in 1989.

Current name. *Crocidura lanosa* Heim de Balsac, 1968.

Crocidura littoralis stenocephala Heim de Balsac, 1979

Säugetierkundl. Mitt. 27: 258, figs. 4–6 (Nov)

Paratype. ZFMK 79.141, female, skin and skull; Kahuzi Biega National Park, Kivu, Democratic Republic of the Congo, collected by F. Dieterlen, 15 Nov 1972, field no. K 2544; received in exchange from SMNS (SMNS catalogue no. 22806).

Current name. *Crocidura stenocephala* Heim de Balsac, 1979 (Hutterer 1982).

Comments. Holotype and remaining paratypes in SMNS. The species was described in Dieterlen & Heim de Balsac (1979).

Crocidura manengubae Hutterer, 1982

Bonn. zool. Beitr. 32: 241, figs. 1, 4 (Jan)

Holotype. ZFMK 81.443, male, skin and skull; Lake Manenguba, 1800 m, Bamenda Highlands, Cameroon, collected by M. Eisentraut and assistants, 28 Dec 1966, field no. 306.

Paratype. ZFMK 69.409, female, skin and skull; same locality and collectors, 3 Jan 1967, field no. 321.

Current name. *Crocidura manengubae* Hutterer, 1982.

Crocidura osorio Molina & Hutterer, 1989

Bonn. zool. Beitr. 40: 86, figs. 2, 3, 8, 13

Paratypes. ZFMK 89.54, specimen in spirit, skull extracted; near Teror, Gran Canaria, Spain, collected by staff of the Finca de Osorio, 1988, field no. 3.

Current name. *Crocidura russula osorio* Molina & Hutterer, 1989 (Hutterer 2005).

Comments. Holotype (field no. 42) deposited in the Museo Canario, Las Palmas de Gran Canaria (Molina, in litt. 2009).

Crocidura panayensis Hutterer, 2007

Lynx (Praha) n.s. 38: 6, figs. 1–4

Holotype. ZFMK 2003.1091, adult female, specimen in spirit, skull extracted; Sibaliw, Municipality of Buruanga (11°49.188'N, 121°58.064'E), NW peninsula, Panay, Republic of the Philippines, collected by E. Curio, 13 May 2000; transferred to the NMP (now NMP 5207).

Paratypes. ZFMK 2003.1092–2003.1094 (1 male, 2 females in spirit, skulls extracted), same locality (450–480 m) and collector, obtained 2001–2003.

Current name. *Crocidura panayensis* Hutterer, 2007.

Comments. Status confirmed by Esselstyn et al. (2009).

Crocidura suaveolens balcanica Ondrias, 1971

Z. Säugetierkd. 35: 379

Paratypes. ZFMK 66.337, female, skin and skull; Sarajevo, Bosnia and Herzegovina, former Yugoslavia, collected by G. Witte, 26 June 1962, field no. 383; ZFMK 66.335, 66.336, 1 female, 1 male, skins and skulls; Ombla Valley, Croatia, former Yugoslavia, collected by G. Witte, 7 and 9 June 1962, field nos. 371, 380.

Current name. *Crocidura suaveolens mimula* Miller, 1901; see Dubey et al. (2007).

Comments. The holotype was collected near Kryonerion, Attica, Greece.

Crocidura sicula aegatensis Hutterer, 1991

Bonn. zool. Beitr. 42: 247

Holotype. ZFMK 89.392, adult male, skin and skull; Casa Sarraceno, Marettimo, Egadi Islands, Italy, collected by F. Krapp, 23 Mar 1969, field no. 35/69.

Paratypes. 6 specimens, listed in detail by Krapp (1970); 1 from Levanzo (ZFMK 89.393, skull), Favignana (ZFMK 89.394–397, 4 skulls, ZFMK 89.398, skin and skull).

Current name. *Crocidura sicula aegatensis* Hutterer, 1991 (Hutterer 2005).

Crocidura sicula calypso Hutterer, 1991

Bonn. zool. Beitr. 42: 247

Holotype. ZFMK 89.418, adult male, specimen preserved in spirit and extracted skull; Is-Saqwi, Xlendi Valley, Gozo (Malta), collected by S. Schembri and D.M. Johnson, 22 Oct 1986.

Paratypes. ZFMK 89.400, specimen in spirit, skull removed, same data as holotype; ZFMK 89.401–417, 2 uncatalogued, 20 skulls from owl pellets, Gozo, collected by J. Sultana, Oct 1981.

Current name. *Crocidura sicula calypso* Hutterer, 1991 (Hutterer 2005).

Comments. Further paratypes are in the collection of P. J. Schembri, Malta, and in IZEA.

Crocidura suaveolens bruecheri Lehmann, 1977

Ric. Biol. Selvag., Suppl., 5: 198, fig. 2 (May)

Holotype. ZFMK 77.665, male, skin and skull; Tiriolo, Catanzaro, Calabria, Italy, collected by E. von Lehmann, 6 Mar 1977, field no. 18.

Paratypes. 12 skins and skulls from Catanzaro Province: 3 males, 4 females, ZFMK 77.664, 77.666–77.671, Tiriolo; 3 males, ZFMK 77.661–77.663, Marcellinara; male, ZFMK 77.660, Catanzaro; male, ZFMK 77.672, near Petrizia; all collected by E. von Lehmann, Mar 1977.

Current name. *Crocidura suaveolens mimula* Miller, 1901; see Dubey et al. (1997).

Comments. Described as *C. s. brücheri* (Lehmann 1977).

Crocidura tansaniana Hutterer, 1986

Bonn. zool. Beitr. 37: 27, fig. 3c

Holotype. ZFMK 85.194, adult male, skin and skull; Amani, E Usambara Mountains, Tanga, Tanzania, collected by S.R.Telford, 17 June 1984, field no. SRT-TZ-12078.

Current name. *Crocidura tansaniana* Hutterer, 1986.

Crocidura telfordi Hutterer, 1986

Bonn. zool. Beitr. 37: 28, fig. 3d

Holotype. ZFMK 85.195, adult male, skin and skull; Morningside, 1150m, Uluguru Mountains, Morogoro, Tanzania, collected by S.R.Telford, 17 Nov 1983, field no. SRT-TZ-4806.

Current name. *Crocidura telfordi* Hutterer, 1986.

Comments. A further skin without skull (SRT-TZ-2397) from Bondwa Peak, Uluguru Mountains, was mentioned in the original description (Hutterer 1986) but excluded from the type material.

Crocidura yankariensis Hutterer & Jenkins, 1980

Bull. Brit. Mus. (Nat. Hist.) Zool. 39: 305, figs. 1–7 (18 Dec)

Paratype. ZFMK 80.805, skull without occipital, with both mandibles, from pellet; Futuk (9°50'N, 10°55'E), Bauchi State, Nigeria, collected by A. Demeter, 7 Aug 1978, field no. 55.

Current name. *Crocidura yankariensis* Hutterer & Jenkins, 1980.

Comments. Holotype in HNHM.

Myosorex eisentrauti Heim de Balsac, 1968

Bonn. zool. Beitr. 19: 20, figs. 1–6 (10 Apr)

Holotype. ZFMK 69.372, male, skin and skull; Pico de Santa Isabel, 2400 m, Bioko, Equatorial Guinea, collected by M. Eisentraut, 14 Oct 1966, field no. 41.

Paratypes. ZFMK 69.373, female, skin and skull, same data as holotype, field no. 40; ZFMK 69.374, male, skin and skull, Refugium, 200 m, 5 Oct 1966, field no. 2; ZFMK, without catalogue no. (field no. 9), skull (skin given to Pater Basilio), Refugium, Bioko, 6 Oct 1966, all collected by M. Eisentraut.

Current name. *Myosorex eisentrauti* Heim de Balsac, 1968 (Hutterer 2005).

Myosorex eisentrauti okuensis Heim de Balsac, 1968

Bonn. zool. Beitr. 19: 24, figs. 4, 5 (10 Apr)

Holotype. ZFMK 69.376, male, skin and skull; Lake Oku, Lager IV, 2100 m, Bansa Highlands, Cameroon, collected by M. Eisentraut, 25 Jan 1967, field no. 410.

Paratypes. 11 skins and skulls, ZFMK 69.377–69.389, Lake Oku (field nos. 460, 446, 377, 346, 461, 376, 340,

345, 416); Lake Manenguba (field nos. 277, 320), all collected by M. Eisentraut in Jan and Feb 1967.

Current name. *Myosorex okuensis* Heim de Balsac, 1968 (Hutterer 2005).

Comments. Paratype ZFMK 69.389 (field no. 447) was given to the Transvaal Museum Pretoria in Aug 1981. Additional paratypes were in the working collection of H. Heim de Balsac and subsequently passed to MNHN.

Myosorex eisentrauti rumpii Heim de Balsac, 1968

Bonn. zool. Beitr. 19: 27, figs. 4–6 (10 Apr)

Holotype. ZFMK 69.375, male, skin and skull; Lager V near Dikume, 1100 m, Rumpi Hills, Cameroon, collected by M. Eisentraut, 28 Feb 1967, field no. 568.

Current name. *Myosorex rumpii* Heim de Balsac, 1968 (Hutterer 2005).

Myosorex kahaulei Stanley & Hutterer, 2000

Bonn. zool. Beitr. 49: 20, figs. 1, 2 (30 Dec)

Paratype. ZFMK 2009.633, female, skin and skull; 4 km W 5 km N Chita, 1460 m, 8°28'30"S, 35°54'25"E, Udzungwa Scarp Forest Reserve, Udzungwa Mts, Kilombero District, Morogoro Region, Tanzania, collected by W.T. Stanley, 14 Aug 1995, field no. WTS 1877. Formerly FMNH 155611.

Current name. *Myosorex kahaulei* Stanley & Hutterer, 2000.

Neomys anomalus rhenanus Lehmann, 1976

Bonn. zool. Beitr. 27: 160 (Oct)

Holotype. ZFMK 71.62, male, skin, skull lost; Firnbach near Datzeroth, Westerwald, Germany, collected by E. von Lehmann, 6 Apr 1971, field no. 360.

Paratypes. ZFMK 67.126, male, skin and skull, Dasburg, Eifel, Germany, collected by J. Olert, 9 July 1967; ZFMK 61.440, 62.116, 70.110, 70.111, 4 skins and skulls, Rotenboden, Liechtenstein, collected by E. von Lehmann, 27 July 1961, 25 Aug 1962, 23 May 1970; ZFMK 71.334, 71.335, 2 skins and skulls, Gamander, Liechtenstein, collected by J. Olert, 5 Nov 1971; in addition several skulls from pellets (not catalogued).

Current name. *Neomys anomalus* Cabrera, 1907.

Comments. Further paratypes from the private collection of W. Issel, Augsburg, are now in SMNS.

Neomys fodiens niethammeri Bühler, 1963

Bonn. zool. Beitr. 14: 169

Neotype. ZFMK 94.525, female, skin, skull and skeleton; islet below karstic spring, Ramales de la Victoria, Cantabria, N Spain, collected by P. Bühler, 18–19 Sept 1970 (in captivity until 28 Dec 1970).

Current name. *Neomys fodiens niethammeri* Bühler, 1963.

Comments. Bühler (1996: 312) designated a neotype because the holotype, an isolated mandible, was lost. The

taxon may eventually deserve species status (López-Fuster et al. 1990).

Paracrocidura schoutedeni camerunensis Heim de Balsac, 1960

Bonn. Zool. Beitr. 10: 204, fig. 3 (10 Jan)

Holotype. ZFMK 61.760, male, skin and skull; Lager V, ca. 600 m, above Mueli, N side of Mount Cameroon, Cameroon, collected by M. Eisentraut, 7 Feb 1958, field no. 568.

Current name. *Paracrocidura camerunensis* Heim de Balsac, 1960 (Hutterer, unpubl.).

Sorex araneus hülleri Lehmann, 1966

Säugetierkundl. Mitt. 14: 131, fig. 2

Holotype. ZFMK 64.169, male, skin and skull; Naturschutzgebiet Elmpter Schwalmbruch, Kreis Erke-lenzen, Bezirk Aachen, North Rhine-Westphalia, Germany, collected by E. von Lehmann, 7 Apr 1964, field no. 29.

Paratypes. 6 males, 2 females (ZFMK 64.168, 64.170, 64.171, 64.577-580, 64.1193), same collector and locality.

Current name. *Sorex araneus hülleri* Lehmann, 1966.

Comments. Two paratypes (ZFMK 64.1192, 64.1194) were exchanged with NMW in May 1979.

Sorex araneus silanus Lehmann, 1961

Zool. Anz. 167: 214

Holotype. ZFMK 60.339, adult male, skin and skull; Camigliatello Silano, Calabria, Italy, collected by E. von Lehmann, 9 Aug 1960, field no. 71.

Paratypes. 4 males, 3 females, 1 indiv. sex undetermined, ZFMK 60.336-60.338, 60.340-60.344, all same locality and collector.

Current name. *Sorex antinorii* Bonaparte, 1840.

Comments. Taxonomy discussed in detail by Brünner et al. (2002).

Sorex araneus wettsteini Bauer, 1960

Bonn. zool. Beitr. 11: 178 (30 Oct)

Paratypes. ZFMK 79.544 (male), 79.545 (female), skins and skulls; siltation zone of Neusiedler See, Neusiedl am See, Burgenland, Austria, collected by K. Bauer, 19 May and 11 Apr 1951, field nos. KB 51/105, KB 51/44. Obtained in exchange from NMW in 1979.

Current name. *Sorex araneus wettsteini* Bauer, 1960.

Sorex minutus becki Lehmann, 1963

Jb. Histor. Vereins Fürstentum Liechtenstein 62: 187

Holotype. ZFMK 56.1004, male, skin and skull, Silum, Liechtenstein, collected by E. von Lehmann and H.-J. Kuhn, 11 Aug 1956.

Paratypes. ZFMK 49.43, male, skin and skull; Osterach Valley, Allgäu, Germany, 7 Sept 1949; ZFMK 50.144, 50.145, 2 males, skins and skulls, Bodman, Lake Con-

stance, Germany, 9 May 1949, all collected by G. Heinrich.

Current name. *Sorex minutus* Linnaeus, 1866.

Sorex etruscus Savi, 1822

Nuovo Giornale de Letterati 1: 60, plate on p. 70

Syntypes. ZFMK 78.513, adult female, in spirit, skull removed; Italy, earlier than 1846, sent to Göttingen Museum by Paolo Savi (Berthold 1850: 13, "Gesch. des Hrn Prof Savi" = donated by prof. Savi), where it was catalogued in 1846. Inscription on specimen label: "Crocidura etrusca (Savi) / 1846 / Savi". ZFMK 78.514, juvenile, complete specimen in spirit. Pisa, Italy, no date, sent to Göttingen Museum by Paolo Savi; has 2 labels, a) one old and faded, "Sorex etruscus ...", b) a newer one, approximately about 1850, "a. Crocidura etrusca / A.S. / Savi / Pisa".

Current name. *Suncus etruscus* (Savi, 1822).

Comments. Both specimens were detected on the occasion of the take-over of parts of the mammal collection of the old Göttingen Museum by ZFMK in 1978. The meaning of "A.S." on the label of the second specimen is "Alte Sammlung" (=old collection). Therefore it already was in the old collection when its first inventory was compiled about 1846.

Sylvisorex akaibei Mukinzi, Hutterer & Barrière, 2009

Mammalia 73: 130, figs. 2, 3

Paratype. ZFMK 2006.168 (R27986), young adult; Masako Forest Reserve (00°36.304'N, 25°15.389'E), 388 m, Kisangani area, Tshopo district, NW Democratic Republic of the Congo, collected by I. Mukinzi and D. Amundala, 2 Jun 2005.

Current name. *Sylvisorex akaibei* Mukinzi, Hutterer & Barrière, 2009.

Comments. Holotype in RCMA.

Sylvisorex grauti camerunensis Heim de Balsac, 1968

Bonn. zool. Beitr. 19: 35, figs. 10, 11 (10 Apr)

Holotype. ZFMK 69.358, male, skin and skull; Lager III, 1800 m, Lake Manenguba, Cameroon, collected by M. Eisentraut, 18 Dec 1966, field no. 271.

Paratypes. 6 skins and skulls, ZFMK 69.359, 69.361-69.364, one specimen without catalogue no.; Lake Manenguba (field nos. 305, 295, 280), Dec 1966; Lake Oku, 2100 m (field nos. 354, 363, 375), Jan 1967, all collected by M. Eisentraut.

Current name. *Sylvisorex camerunensis* Heim de Balsac, 1968; see Hutterer et al. (1992).

Sylvisorex morio isabellae Heim de Balsac, 1968

Bonn. zool. Beitr. 19: 31, figs. 8, 9 (10 Apr)

Holotype. ZFMK 69.365, male, skin and skull; Refugium, 2000 m, Bioko, Equatorial Guinea, collected by M. Eisentraut, 10 Nov 1966, field no. 32.

Paratypes. 3 skins, 2 skulls, ZFMK 69.366, 69.367, one specimen without catalogue no., Refugium (field no. 35), Bioko, Oct 1966; Pico de St. Isabel, Bioko, 2400 m (field no. 44), 14 Oct 1966, all collected by M. Eisentraut.

Current name. *Sylvisorex isabellae* Heim de Balsac, 1968; see Hutterer (2005).

Sylvisorex corbeti Hutterer & Montermann, 2009

Bonn. zool. Beitr. 56: 202, figs. 1, 2, 4, 5 (30 Sept)

Holotype. ZFMK 88.91, young adult female, flat skin and skull; near Chappal Waddi (07°01' N, 11° 41' E), 1900 m, Gotel Mountains, SE Nigeria, collected by G. Nikolaus, 23 Mar 1988, field no. GN 60.

Current name. *Sylvisorex corbeti* Hutterer & Montermann, 2009.

Comments. Previously identified as *S. ollula* by Hutterer et al. (1992).

Sylvisorex silvanorum Hutterer, Riegert & Sedláček, 2009
Bonn. zool. Beitr. 56: 151, figs. 1–3 (30 Sept)

Holotype. ZFMK 74.430, young adult female, skin and partial skull; near Lake Bambili, Mount Lefo, Bafut Ngemba F. R. (5°55' N, 10°14' E), 1800–1900 m, Bamenda Highlands, NW Province, Cameroon, collected by W. Böhme and W. Hartwig, 7 Mar 1974, field no. 98.

Paratypes. ZFMK 2003.1103, 2003.1104, 2 incomplete skulls, removed from pellets of *Tyto capensis*; slope of the lower Bambili volcano craters (5°55' N, 10°14' E), 2400 m, about 8 km SE city of Bamenda, Bamenda Highlands, NW Province, Cameroon, collected by J. Riegert and O. Sedláček, Nov 2001.

Current name. *Sylvisorex silvanorum* Hutterer, Riegert & Sedláček, 2009.

Sylvisorex vulcanorum Hutterer & Verheyen, 1985

Z. Säugetierkd. 50: 267, figs. 1, 2

Paratype. ZFMK 85.193, specimen in spirit; Karisoke (0°28' S, 29°29' E), 3100 m, Parc National des Volcans, Rwanda, collected by W. Verheyen, 1982, field no. 3738.

Current name. *Sylvisorex vulcanorum* Hutterer & Verheyen, 1985.

Talpidae

Talpa caeca steini Grulich, 1971

Acta Sc. Nat. Brno, Prague 5 (9): 38, figs. 1–4, 6–7, plate II

Paratypes. ZFMK 66.307–66.316, 9 males, 1 female, skins and skulls; Lovćen, Montenegro, former Yugoslavia, collected by G. Witte, 22–28 May 1962, field nos. 350–360.

Current name. *Talpa caeca steini* Grulich, 1971; see Hutterer (2005).

Talpa romana wittei Capolongo, 1986

Bonn. zool. Beitr. 37: 252

Holotype. ZFMK 66.298, male, skin and skull; Monte Gargano, Apulia, Italy, collected by G. Witte, 28 July 1961, field no. 216.

Paratypes. ZFMK 66.291–297, 66.299–302; 9 males, 2 unsexed skins and skulls, all Monte Gargano, collected by G. Witte, May–June 1961.

Current name. *Talpa romana wittei* Capolongo, 1986; see Hutterer (2005).

Talpa stankovici montenegrina Kryštufek, 1994

Bonn. zool. Beitr. 45: 14

Paratypes. ZFMK 93.400 (male), 93.401 (female), flat skins and skulls; sandy beach 5 m from the sea, Ulcinj, Montenegro (former Yugoslavia), collected by B. Kryštufek & A. Stangelj, 14 Nov 1983, field nos. 3206, 3207.

Current name. *Talpa stankovici montenegrina* Kryštufek, 1994.

Comments. Donated by B. Kryštufek 1993.

CHIROPTERA

Pteropodidae

Rousettus aegyptiacus occidentalis Eisentraut, 1960

Bonn. zool. Beitr. 10: 231, figs. 8, 13 (10 Jan)

Holotype. ZFMK 59.450, male, skin and skull; Mueli, ca. 600 m, N side of Mount Cameroon, Cameroon, collected by M. Eisentraut, 20 Feb 1958, field no. 648.

Paratypes. 28 skins and skulls, 11 specimens in spirit; Lager V, above Mueli, 600 m (ZFMK 61.576, 61.578, 61.582, 61.584–61.586, 61.595–61.597, 61.600, 61.602), Feb 1958; Lager I, above Buea, 1600 m, Mount Cameroon (ZFMK 61.592, 61.593, 63.209a–f), Nov 1957; Lager VI, Isobi, 30 m, W side of Mount Cameroon (ZFMK 61.577, 61.580, 61.581, 61.583, 61.587–61.591, 61.594, 61.598, 61.599, 63.208a–e), Mar 1958; Lager IV, near Lake Koto Barombi, 120 m, N side of Mount Cameroon (ZFMK 61.575, 61.579, 61.601), Jan 1958; all collected by M. Eisentraut.

Current name. *Rousettus aegyptiacus unicolor* Gray, 1870; see Koopman (1966).

Rhinolophidae

Hipposideros camerunensis Eisentraut, 1956

Zool. Jb., Syst. Ökol. 84a: 526, figs. 6–8 (27 Dec)

Paratype. ZFMK 79.138, adult female; Buea, Cameroon, collected by M. Eisentraut, 29 Apr 1954, field no. 506; received in exchange from SMNS (SMNS catalogue no. 5196), Mar 1979.

Current name. *Hipposideros camerunensis* Eisentraut, 1956.

Comments. Holotype and additional paratypes in SMNS.

Rhinolophus denti knorri Eisentraut, 1960

Stuttg. Beitr. Naturk. 39: 3, fig. 2 (1 June)

Paratypes. ZFMK 59.174, male, skin and skull; cave near Nyembaro, Salung Plateau, 10 km W Kolenté, Guinea, collected by H. Knorre, 15 Nov 1956, field no. 90; ZFMK 59.175, male, skin and skull, same locality and collector, 19 Nov 1956.

Current name. *Rhinolophus (denti) knorri* Eisentraut, 1960.

Comments. Holotype in SMNS.

Rhinolophus ferrumequinum martinoi Petrov, 1941

Zap. Russk. Nauch. Inst. Belgr.16: 59

Holotype. ZFMK 2002.458, female, skull; Pepeliste near Krivolak, 400 m, 40 km SE Veles, S Serbia, collected by B. Petrov, 9 Apr 1939, field no. BP 214.

Paratypes. ZFMK 98.078, female, skin and skull, same data as holotype, field no. BP 217.

Current name. *Rhinolophus ferrumequinum* (Schreber, 1774), see Csorba et al. (2003).

Rhinolophus landeri guineensis Eisentraut, 1960

Stuttg. Beitr. Naturk. 39: 1, fig. 1 (1 June)

Paratypes. ZFMK 59.176, female, skin and skull; Tahiré, bottom of Kelesi Plateau, Guinea, collected by H. Knorre, 5 Oct 1956, field no. 29; ZFMK 59.177, male, skin and skull, cave near Nyembaro, Kankuya Plateau, 8 km W Kolenté, Guinea, same collector, 23 Nov 1956, field no. 137.

Current name. *Rhinolophus guineensis* Eisentraut, 1960; see Böhme & Hutterer (1979).

Rhinolophus sumatranus K. Andersen, 1905

Proc. zool. Soc. London, 1905: 133 (16 May)

Paratype. ZFMK 78.526, male, complete specimen in spirit; Sumatra, Dr. Lambrecht, without date; transferred from Göttingen Museum (catalogue no. 61a) 1978.

Current name. *Rhinolophus acuminatus sumatranus* K. Andersen, 1905; see Medway (1977: 48).

Rhinolophus zياما Fahr, Vierhaus, Hutterer & Kock, 2004

Myotis 40: 109, figs. 1–7

Holotype. ZFMK 99.934, adult male, specimen preserved in spirit, skull and parts of skeleton; Reserve de la Biosphere du Massif du Zياما, western edge of Seredou, Guinée Forestière, Guinea, collected by H. Vierhaus, 12 Aug 1992, field no. HV 2590.

Current name. *Rhinolophus zياما* Fahr, Vierhaus, Hutterer & Kock, 2004.

Megadermatidae

Megaderma gigas Dobson, 1880

Proc. zool. Soc. London, 1880: 461, plate XLVI (15 June)

Holotype. ZFMK 78.525, specimen in spirit, skull extracted; Wilson's River, Mount Margaret, Central Queensland, Australia, collected by Mr. Wilson, sent to Göttingen Museum by Dr. Schütte 1879. Transferred to ZFMK in 1978; Göttingen Museum catalogue no. 102a.

Current name. *Macroderma gigas* (Dobson, 1880).

Comments. When retrieved in 1978 the skull of the holotype was dissected on one side only. Therefore Dobson must have obtained his figure by mirroring this side of the skull. The only partial dissection of the skull also explains the fact that in the original description the skull figured has no nasal fossa. The skull was cleaned in 1979.

Phyllostomidae

Platyrrhinus chocoensis Alberico & Velasco, 1991

Bonn. zool. Beitr. 42: 238

Paratype. ZFMK 89.250, male, skin and skull; Concepcion Bajo Calima pulpopel, Municipio Buenaventura, Valle, Colombia, collected by J.H. Gamba, 2 Mar 1986, field no. 129, donated by M. Alberico in 1989.

Current name. *Platyrrhinus chocoensis* Alberico & Velasco, 1991.

Comments. Further paratypes in ZMB (Turni & Kock 2008), FMNH, MNHN and SMNS.

Molossidae

Dinops Cestoni Savi, 1825

Nuovo Giornale de' Letterati, Pisa, 10: 235

Syntype. ZFMK 83.173, male, complete specimen in spirit; Tuscany, Italy. Label: "*Nyctinomus cestonii*(Savi)Dobson (In der Sammlg. Von Berthold als *Dysopes Savii* angegeben) Prof. Savi ded. 1846 Toscana". Transferred to ZFMK from Göttingen Museum 1978.

Current name. *Tadarida teniotis* (Rafinesque, 1814).

Comments. Synonym of *Tadarida teniotis*. The specimen was sent to the Göttingen Museum by P. Savi. The year specification 1846 refers to the year of inventory taking in Göttingen (cf. Berthold 1850), the specimen was collected before. Additional specimens that can also be considered to represent syntypes are in the museums of Pisa, Vienna, and London.

Vespertilionidae

Amblyotus atratus Kolenati, 1858

Sber. Math.-nat. Cl. kais. Akad. Wiss. 29: 252

Syntype(?). ZFMK 77.1035, male, in spirit, skull extracted; label 1: “*Amblyotus atratus* (Kolenati) / (*Meteorus*) / *Altvater Mountains*”, label 2: “*Vesperus atratus* Kuhl / *Altvater* /107a/ C. Koch”.

Current name. *Eptesicus nilssoni* (Keyserling & Blasius, 1839), see Ellerman & Morrison-Scott (1951).

Comments. The ZFMK specimen originates from the bat collection of the renowned chiropterologist Carl Koch who mainly collected in Hesse and Westphalia but also exchanged bats from all over the world or received them from contemporaries. Koch very probably received the specimen now in Bonn from his contemporary Kolenati. This assumption is supported by the label entries of Kolenati's genus (*Amblyotus*), subgenus (*Meteorus*) and species (*atratus*) as well as the type locality “Altvater Mountains”. C. Koch's main work (*Das Wesentliche der Chiropteren mit besonderer Beschreibung der in dem Herzogtum Nassau und den angrenzenden Landesteilen vorkommenden Fledermäuse, 1862/63*) contains a paragraph on *Meteorus atratus* (Kolenati) on page 393 which documents that Koch saw a specimen. In addition he points out the similarity of *M. atratus* with *V. nilssoni*.

Plecotus alpinus Kiefer & Veith, 2002

Myotis 39: 8, figs. 2–4 (Apr 2002)

Holotype. ZFMK 2001.325, male, skin and skull; Ristolas (06°57'N 44°46'E), Haute Alpes, France, 1600m, collected by P. Favre, 24 Aug 2001.

Paratypes. ZFMK 61.451, adult female, skin and skull, Schaan (51°06'N, 06°28'E), Liechtenstein, collected by E. von Lehmann, 23 Aug 1961; ZFMK 2001.237, adult female, skin and skull, Fischertratten (46°56'N, 13°31'E), 768 m, Austria, collected by G. Reiter, 15 May 2000; ZFMK 2001.328, juvenile male, dry skin with skull, Duvin (46°43'N, 09°12'E), 1080 m, Switzerland, collected by M. Lutz, 29 Aug 2000.

Current name. *Plecotus macrobullaris alpinus* Kiefer & Veith, 2002.

Comments. See Kock (2002) for a discussion of the publication date.

Plecotus auritus hispanicus Bauer, 1957

Bonn. zool. Beitr. 7: 312 (31 Jan)

Holotype. ZFMK 46.292, female, skin and skull; Lagunilla, Bejar, Salamanca, Spain, collected by H. Grün, 7 July 1940.

Paratypes. 8 skins and skulls, 1 specimen in spirit; ZFMK 34.19 (Lagunilla, 3 Feb 1934), 46.288 - 46.291, 46.293 (same locality, 6–10 July 1940), 35.73 (Linares de Riofrio, 2 May 1935), 53.36 (same locality, 3 Feb 1953), 30.66 (specimen in spirit, Mosqueruela, 3 Oct 1930), all collected by H. Grün.

Current name. *Plecotus austriacus hispanicus* Bauer, 1957; see Bauer (1960: 141–144).

Pipistrellus eisentrauti Hill, 1968

Bonn. zool. Beitr. 19: 45 (10 Apr)

Holotype. ZFMK 68.5, adult male, skin and skull; Lager V, Dikume-Balue, Rumpi Hills, Cameroon, collected by M. Eisentraut, 18 Feb 1967, field no. 498.

Paratype. ZFMK 68.6, adult female, skin and skull; Lager II, ca. 1100 m, Mount Kupe, Cameroon, same collector, 30 Nov 1966, field no. 198.

Current name. *Hypsugo eisentrauti* (Hill, 1968).

Comments. Another paratype was given to BMNH.

Vespertilio Bonapartii Savi, 1838

Nuovo Giornale de' Letterati, Pisa, 37: 226

Syntype. ZFMK 83.172, male complete specimen in spirit; Tuscany, Italy. Label: “*Vesperugo maurus* Blas. (*festè Dobson* 1880. *Vgl. Proc. Zool. Soc. Lond. Jme, 1880*) in der alten Samlg von Berthold als *Vespertilio Savii* bezeichnet. A.S. 1847. Toscana.” Transferred from Göttingen Museum to Museum Alexander Koenig in 1978.

Current name. *Hypsugo savii* (Bonaparte, 1837).

Comments. This specimen of Savi's pipistrelle was sent to the Göttingen Museum by Paolo Savi, as noted by Berthold (1850) and was subsequently discussed by Dobson (1880). *Vesperugo maurus* Blasius, 1853 is another synonym of *H. savii*; syntypes of this taxon are preserved in the Natural History Museum of Braunschweig (Hevners 2005).

CARNIVORA

Felidae

Felis catus jordansi Schwarz, 1930

Zool. Anz. 91: 223

Holotype. ZFMK 83.186, male, skin and skull (occiput damaged); Santa Margarita, Majorca, Spain, collected by J. Parpal, 13 Jan 1929.

Paratype. ZFMK 83.187, skin, in poor condition; San Juan, Majorca, same collector, 9 June 1930.

Current name. *Felis silvestris jordansi* Schwarz, 1930.

Comments. Skull and skin of holotype are figured in Haltenorth (1953). The paratype may be a domestic cat.

Viverridae

Genetta burloni Gaubert, 2003

Mammalia 67: 95, figs. 4–6

Paratype. ZFMK 95.10, skin; Ziama Forest, Gboda, SE Guinea, obtained from local people by W. Bützler, 1993/94.

Current name. *Genetta burloni* Gaubert, 2003.

Genetta (Paragenetta) lehmanni Kuhn, 1960

Säugetierkundl. Mitt. 8: 154–160, figs. 1, 4, 5, 7, 9–12

Holotype. ZFMK 57.11, skull of an adult individual, sex unknown; Kpeape (6°36'N, 8°30'W), Liberia, Feb 1956, ex H. Himmelheber collection.

Paratype. ZFMK 61.966, skull of an adult individual, sex unknown, same locality and collector, 1959; formerly in the possession of Dr. H. Himmelheber.

Current name. *Genetta johnstoni* Pocock, 1908.

Comments. Synonym of *Genetta johnstoni* Pocock, 1908 (Kuhn 1965: 332). *Genetta lehmanni* is the type species of the subgenus *Paragenetta* Kuhn, 1960.

Herpestidae

Crossarchus platycephalus Goldman, 1984

Can. J. Zool. 62: 1624

Paratypes. 6 skins, 6 skulls (2 damaged); ZFMK 61.739 (field no. 701), adult male, ZFMK 61.741 (field no. 700), adult female, collected by M. Eisentraut, Lager VI, Iso-bi, near Bibundi, W side Mount Cameroon, Cameroon, 5 Mar 1958, 30 m; ZFMK 61.742 (field no. 719), adult, same locality and collector, 7 Mar 1958; ZFMK 61.740 (field no. 657), ZFMK 61.743 (field no. 563), adult males, Lager V, above Mueli, 600 m, N side Mount Cameroon, Cameroon, same collector, 21 Feb and 6 Feb 1958; ZFMK 69.150 (field no. 578), Lager V, Dikume, 1100 m, Rumpi Hills, W Cameroon, same collector, 1 Mar 1967.

Current name. *Crossarchus platycephalus* Goldman, 1994.

Liberiictis kuhni Hayman, 1958

Ann. Mag. nat. Hist. (13) 1: 449, fig. 1

Paratypes. 6 skulls, ZFMK 58.21 – 58.26; Gaplay (7°8'N, 8°28'W), NE-Liberia, Jan 1957, ex H. Himmelheber collection.

Current name. *Liberiictis kuhni* Hayman, 1958.

Comments. The original series consisted of 8 skulls. The holotype is BMNH 58.507 and one paratype was in the collection of the Department of Biogeography, Saarbrücken University.

Canidae

Vulpes vulpes toschii Lehmann, 1969

Z. Jagdwiss. 15: 28–31, figs. 1–4

Holotype. ZFMK 66.487, adult female, flat skin and skull; Calvo area, Monte Gargano, Apulia, Italy, collected by M. Facciorusso, 13 Oct 1961, collection G. Witte.

Paratypes. 4 skulls, 2 flat skins. ZFMK 56.741, male, flat skin and skull, Foresta Umbra, Monte Gargano, collected by B. Hagen, 12 Sept 1955; ZFMK 56.742, skull, humerus and femur, same locality and collector; ZFMK

66.488, female, skull, Calvo area, Monte Gargano, 800–900 m, collected by M. Facciorusso, June 1961, collection G. Witte no. 214; ZFMK 66.489, damaged skull, Foresta Umbra, Monte Gargano, collected by La Torre, June 1961, collection G. Witte no. 243; ZFMK 68.205, male, flat skin, Lungro, Calabria, Italy, through V. Skanderberg, winter 1967/68, collection E. von Lehmann.

Current name. *Vulpes vulpes crucigera* Bechstein, 1789.

ARTIODACTYLA

Cervidae

Alces pfizenmayeri Zukowsky, 1910

Wild und Hund 16, 45: 808.

Material. ZFMK 2009.632, a possible syntype or paralectotype; skull of adult male, junction of Aldan and Lena River, Yakutsk Province, Russia; collected by E. Pfizenmayer (Tbilisi) in Nov 1909.

Current name. *Alces americanus* (Clinton, 1822).

Comments. Pfizenmayer (1910) published an account on a large form of moose from northern Siberia in which he figured five male skulls from the Aldan Range. Zukowsky (1910: 808) subsequently commented on this article and named the moose *Alces pfizenmayeri*. In 1914 he added a more detailed account in which he fixed the skull shown in Pfizenmayer's (1910) figure 6 as the type; this skull had been donated to the Berlin Museum and catalogued under number A.19.09 (Zukowsky 1914: 38). A letter from E. Pfizenmayer to Alexander Koenig dated 15 June 1911 (ZFMK Archives) tells that he sold other skulls from that series to the museums of Vienna, Washington, Stockholm, and Bonn; one he kept for himself. Zukowsky's (1914) action of fixing the Berlin specimen as the type can be taken as a lectotype designation; the remaining specimens will then be paralectotypes. The Bonn specimen was not figured in the paper of Pfizenmayer (1910); its status is therefore questionable. It is, however, one of the original specimens obtained by Pfizenmayer from the type locality. Grubb (2005) included the name as a synonym in *Alces americanus*. Zukowsky's name, however, is the earliest available name for the Palaearctic range of the American Moose and is sometimes applied as technical name for the Yakutsk Moose (Franzmann 1981).

Dama dama geiselana Pfeiffer, 1998

Eiszeitalter u. Gegenwart 48: 75, figs. 1C, 2, 6

Material. ZFMK 2009.629, cast of right antler of holotype (Landesmuseum für Vorgeschichte Halle, HK 97:14165 NN17); Pleistocene lake sediments of Neumark-Nord, Geiselal, Sachsen-Anhalt, Germany.

Current name. *Dama dama geiselana* Pfeiffer, 1998.

Comments. Cast taken from original by ZFMK staff.

RODENTIA

Sciuridae

Sciurus ingrami sebastiani Müller & Vesmanis, 1971
Senckenberg. biol. 52: 378

Holotype. ZFMK 2009.622 (formerly Univ. Saarbrücken 0535), adult male, skin and skull; rainforest above the electric power station, 500 m, San Sebastiao Island (23°50'S, 45°20'W), São Paulo State, Brazil, collected by E. & P. Müller, E.B. Böhaler & F. Silva, Oct 1964, field no. 234.

Paratypes. ZFMK 2009.623 - 2009.628, 6 skins, 3 skulls, same locality and collectors, 1964–1967.

Current name. This taxon was overlooked by Thorington & Hoffmann (2005), and its status therefore not evaluated. They included *ingrami* as a subspecies in *Sciurus aestuans*, however, Müller & Vesmanis (1971) demonstrated that *sebastiani* was larger in cranial measurements than *ingrami* from the mainland, and that its body colouration was darker. Here we tentatively accept the taxon as a valid island form as *Sciurus aestuans sebastiani* Müller & Vesmanis, 1971.

Comments. Holotype and paratypes were initially stored at the Department of Biogeography at Saarbrücken University, then transferred to the University of Trier, and finally donated to the ZFMK in 2009. Two further paratypes are in SMF (SMF 40557-8).

Sciurus vulgaris hoffmanni Valverde, 1967
Bol. R. Soc. Esp. Hist. Nat., Biol. 65: 225

Paratype. ZFMK 92.518, adult male, skin and skull; La Perdiz, Sierra de Espuna, Alhama de Murcia, Spain, collected by J. A. Valverde, 25 Apr 1967, field no. 979.

Current name. *Sciurus vulgaris hoffmanni* Valverde, 1967 is antedated by *Sciurus aestuans hoffmanni* Peters, 1864, a Central American squirrel (Peters 1864, Elliot 1904). Both homonyms were listed by Thorington & Hoffmann (2005) without comment. A replacement name is therefore required for the strikingly large and pale squirrel of the Sierra de Espuna. It shall be further on known as *Sciurus vulgaris valverdei* Hutterer nom. nov., in honour of its describer, J. A. Valverde.

Comments. Holotype is no. 985 in the Estación Biológica de Donana, Sevilla. Measurements of paratype 979 were included in Valverde (1967); the specimen was donated by J. A. Valverde to J. Niethammer and remained in his private collection until it was passed to the ZFMK in 1992.

Gliridae

Dryomys nitedula aspromontis Lehmann, 1964
Sitzber. Ges. naturf. Freude Berl. (N.F.) 4: 33, fig. 2

Holotype. ZFMK 63.510, adult male, skin and skull; Gambarie d'Aspromonte, Calabria, Italy, collected by E. von Lehmann, 13 Aug 1963, field no. 92.

Paratypes. ZFMK 63.508, 63.509, 63.511 – 63.513, 3 males, 2 females, skins and skulls, same locality and collector as holotype, 12–13 Aug 1963, field nos. 85–86, 93–95.

Current name. *Dryomys nitedula* (Pallas, 1778).

Dryomys nitedula diamesus Lehmann, 1959
Bonn. zool. Beitr. 10: 4 (7 Sept)

Holotype. ZFMK 58.211, male, skin and skull; Ivanova Kurita, Montenegro, former Yugoslavia, collected by E. von Lehmann, 16 Sept 1958, field no. 28.

Paratypes. ZFMK 58.210, 58.212, 1 male, 1 female, skins and skulls, same locality and collector as holotype, 14–15 Sept 1958, field nos. 16, 23.

Current name. *Dryomys nitedula* (Pallas, 1778).

Comments. Kryštufek (1985) discussed the status of the species in former Yugoslavia.

Muscardinus avellanarius abanticus Kivanç, 1983
Bonn. zool. Beitr. 34: 421, figs. 2, 3 (14 Dec)

Paratypes. ZFMK 83.127, 83.128, females, skins and skulls; Abant, Vil. Bolu, Turkey, collected by E. Kivanç, 6 Aug 1980 and 5 July 1981, field nos. EK 84, EK63.

Current name. *Muscardinus avellanarius abanticus* Kivanç, 1983.

Comments. Holotype in the collection of the Biology Department in the Natural Sciences Faculty of Ankara Univ.

Muscardinus avellanarius kroeckii G. Niethammer & Bohmann, 1950

Neue Ergebnisse und Probleme der Zoologie (Klatt-Festschrift), Leipzig, p. 661

Holotype. ZFMK 74.272, unsexed skin; Vitosa, 1500 m, 10 km S Sofia, Bulgaria, collected by A. Kroeck, 26 Aug 1944, field no. 81, at the same time no. 173/44 of the Bohmann collection. Donated to Museum Koenig by Bohmann in Oct 1974.

Current name. *Muscardinus a. avellanarius* (Storch 1978).

Nesomyidae

Petromyscus collinus kurzi Lehmann, 1955
Bonn. zool. Beitr. 6: 171 (31 Dec)

Holotype. ZFMK 55.75, male, skin and skull; Renosterberg, Kaoko-veld, Namibia, collected by W. Hoesch, 26 Mar 1955, field no. 1256.

Paratypes. ZFMK 55.79, 55.455, 55.456, skins and skulls, same locality, collector and date as holotype.

Current name. *Petromyscus collinus* (Thomas & Hinton, 1925), see Musser & Carleton (2005).

Cricetidae***Clethrionomys glareolus curcio*** Lehmann, 1961

Zool. Anz. 167: 219

Holotype. ZFMK 60.352, adult female, skin and skull; Camigliatello Silano, Calabria, Italy, collected by E. von Lehmann, 2 Aug 1960, field no. 29.**Paratypes.** ZFMK 60.349 - 60.351, 60.353, 60.354, 60.356 - 60.366, 16 skins and skulls, same locality and collector, July/Aug 1960.**Current name.** *Myodes glareolus* (Schreber, 1780); see Musser & Carleton (2005).***Clethrionomys glareolus garganicus*** Hagen, 1958

Z. Säugetierkd. 23: 54, fig. 1

Holotype. ZFMK 58.128, adult male, skin and skull; Foresta Umbra, 800 m, Monte Gargano, Apulia, Italy, collected by B. Hagen, 28 Aug 1955, field no. 24.**Paratypes.** ZFMK 58.123 - 58.127, 58.129 - 58.143, 20 skins and skulls, same locality, collector and date, field nos. 8, 19, 20, 22 - 26, 28 - 30, 32 - 42.**Current name.** *Myodes glareolus* (Schreber, 1780); see Musser & Carleton (2005).**Comments.** Hagen (1958: 56, table 2) lists 24 specimens in her description of which 21 were in the ZFMK collection in Apr 1979. The collection date of the holotype was given by Hagen (1958: 55) as "July" but "VIII. 1955" is recorded on its label; likewise all paratypes were collected in Aug 1955.***Clethrionomys glareolus pirinus*** Wolf, 1940

Mitt. Königl. Naturwiss. Inst. Sofia 13: 158 (20 Mar)

Holotype. ZFMK 39.91, adult female, skin and (damaged) skull; Banderiza Hütte, 1800 m, Pirin Mountains, Bulgaria, collected by H. Wolf, 11 June 1938.**Paratypes.** ZFMK 39.92 - 39.96, 5 skins and skulls, Banderiza Hütte and (ZFMK 39.96) Demianiza Valley, 1150 m, same collector, 9-13 June 1938.**Current name.** *Myodes glareolus* (Schreber, 1780); see Musser & Carleton (2005).***Pitymys bavaricus*** König, 1962

Senckenberg. biol. 43: 2, figs. 1, 2, 6, 8, 13

Paratypes. ZFMK 79.142, male, skin and skull; Garmisch-Partenkirchen, Bavaria, Germany, collected by C. König, Nov 1961, field no. 1149, received in exchange from SMNS; ZFMK 2009.630, male, skin and skull; same locality and collector, 10 Nov 1959, field no. 1194, ex Coll. J. Niethammer.**Current name.** *Microtus bavaricus* (König, 1962).**Comments.** The German subpopulation is probably extinct.***Pitymys savii brachycercus*** Lehmann, 1961

Zool. Anz. 167: 223

Holotype. ZFMK 60.379, male, skin and skull; Camigliatello Silano, Calabria, Italy, collected by E. von Lehmann, 27 July 1960.**Paratypes.** ZFMK 60.380 - 60.385, 6 skins and skulls, same locality, collector, and date as in holotype.**Current name.** *Microtus brachycercus* (Lehmann, 1961).**Comments.** Elevated to species by Galleni et al. (1994).***Microtus anatolicus*** Kryštufek & Kefelioğlu, 2002

Bonn. zool. Beitr. 50: 8, figs. 2-4

Holotype. ZFMK 99.926, adult male, skin (tail missing) and skull; Yapali Köyü, Cihanbeyli, Konya, Turkey, collected by H. Kefelioğlu, 20 July 1993.**Current name.** *Microtus anatolicus* Kryštufek & Kefelioğlu, 2002.**Comments.** 12 paratypes were deposited in the Ondokuz Mayıs University at Samsun, Turkey.***Microtus (Terricola) savii niethammericus*** Contoli, 2003

Hystrix, Italian Journal of Mammalogy (n.s.) 14: 109

Lectotype. Here designated: ZFMK 2003.928, adult female (6 teats visible), flat skin and skull; Foresta Umbra, 12 km in direction Monte San Angelo (41.13N 15.58E), 750 m, Monte Gargano, Italy, collected by J. Niethammer, 23 Mar 1980; field no. 6124.**Paralectotypes.** 19 skins and 20 skulls (11 females, 9 males), all from type locality Foresta Umbra between 700 and 750 m in 1980; ZFMK 2003.916-2003.927, 2003.929-2003.936.**Current name.** *Microtus savii* (de Selys-Langchamps, 1838); see Musser & Carleton (2005).**Comments.** Contoli (2000: 40) named this taxon *Microtus (Terricola) savii niethammeri*, a nomen nudum and homonym of *Microtus (Terricola) multiplex niethammeri* Brunet-Lecompte & Volobouev, 1994. In 2003, he renamed it *niethammericus* and provided a short description (3 pairs of teats in females, X chromosome acrocentric) and type locality (Foresta Umbra), based on the work of Niethammer (1981). He also listed a series of 21 syntypes (ZFMK 2003.916 - 2003.936), based on the paper of Niethammer (1981) and on correspondence with one of us (RH). No holotype was fixed. We selected a specimen as the lectotype which exhibits one of the diagnostic traits (3 pairs of teats), and which has a skull in good condition. Vouchers for the karyotype of $2n = 54$ (1 male, 1 female; Niethammer 1981: 46, fig. 1) are among the paralectotypes.***Nesoryzomys fernandinae*** Hutterer & Hirsch, 1980

Bonn. zool. Beitr. 30: 276, fig. 2 (28 Dec)

Holotype. ZFMK 79.370, skull of an adult individual, interparietale missing, tip of nasalia damaged, from owl pellets; Fernandina Island, 300 m, Galápagos Islands, Ecuador, collected by U. Hirsch, June 1979.

Paratypes. ZFMK 79.371 – 79.406, 36 skulls, ex pellets, same locality, collector and date as holotype; further paratypes deposited in AMNH, BMNH, FMNH and Charles Darwin Station, Galápagos Islands.

Current name. *Nesoryzomys fernandinae* Hutterer & Hirsch, 1980.

Comments. The species was recently collected alive (Dowler et al. 2000).

Muridae

Acomys cilicins Spitzenberger, 1978

Ann. naturhist. Mus. Wien 81: 444, figs. 1c, 2c, plate 1 (Feb)

Paratypes. ZFMK 68.265, male, skin and skull; 20 km E Silifke, Turkey, collected by H. Mittendorf, 22 July 1968, field no. 181; ZFMK 68.266, 68.267, females, skins and skulls, same locality and collector, 24 July 1968, field nos. 193, 194.

Current name. *Acomys cilicins* Spitzenberger, 1978.

Comments. Holotype in NMW.

Apodemus agrarius heurici Lehmann, 1970

Säugetierk. Mitt. 18: 154, fig. 1 (May)

Holotype. ZFMK 46.441, male, skin and skull; Bildhausen near Münnernstadt, Bad Kissingen District, Germany, collected by G. Heinrich, 10 Aug 1946, field no. 2956.

Paratypes. ZFMK 46.412, male, skin and skull, same locality, collector and date as holotype.

Current name. *Apodemus agrarius* (Pallas, 1771).

Apodemus flavicollis alpinus Heinrich, 1951 – *Apodemus flavicollis alpicola* Heinrich, 1952

Zool. Jb., Syst., 80: 114; J. Mammal. 33: 260

Paratypes. ZFMK 49.20 – 49.25, 4 males, 2 females, skins and skulls; Osterach Valley, Allgäu, Germany, collected by G. Heinrich between 1 and 14 Aug 1949.

Current name. *Apodemus alpicola* Heinrich, 1952

Comments. As *alpinus* was preoccupied Heinrich assigned the name *alpicola* to the same form.

Apodemus tauricus geminae Lehmann, 1961

Zool. Anz. 167: 228

Holotype. ZFMK 58.149, adult female; Monte Gargano, Apulia, Italy, coll. by B. Hagen, Aug 1955, field no. 7.

Paratypes. ZFMK 58.144, 58.145, 58.148, 58.150 – 58.163, 58.156 – 58.164, 15 skins and skulls, same locality, collector and date as holotype.

Current name. *Apodemus flavicollis* (Melchior, 1834); see Musser & Carleton (2005).

Comments. According to the locality data published by Hagen (1958) the terra typica can be specified as “Foresta Umbra, Monte Gargano”.

Apodemus flavicollis sicilianus Lehmann & Schaefer, 1973

Ric. Biol. Selvag., Suppl. 5: 180, figs. 3, 4 (Nov)

Holotype. ZFMK 73.256, adult female, skin and skull; higher range, Mount Etna, ca. 1600 m, Sicily, Italy, collected by E. von Lehmann and H.-E. Schaefer, 12 Sept 1973, field no. 27 (Ä 7).

Paratypes. ZFMK 73.250 – 73.257, 4 males, 3 females, skins and skulls, same locality, collector and date as holotype, field nos. 20–26, 28 (Ä 1–6, 8).

Current name. *Apodemus sylvaticus* (Linnaeus, 1758).

Comments. This name is missing in Wilson & Reeder (2005).

Canariomys tamarani López-Martínez & López-Jurado, 1987

Doñana, Publicación ocasional 2:10

Material. ZFMK 2009.634, cast of holotype I-11, skull without mandibles, rostrum and braincase damaged; ZFMK 2009.635–638, casts of paratypes I-267, I-47, I-516, I-592, skull, upper toothrows, and 2 left mandibles; all from Holocene dune sediments at La Aldea de San Nicolas de Tolentino, Gran Canaria, Canary Islands, Spain, collected by L.F. López-Jurado and colleagues.

Current name. *Canariomys tamarani* López-Martínez & López-Jurado, 1987.

Comments. The original type series is in the Museo Canario, Las Palmas de Gran Canaria, Spain. The species is extinct.

Colomys goslingi eisentrauti Dieterlen, 1983

Bonn. zool. Beitr. 34: 89 (12 Sept)

Holotype. ZFMK 74.366, adult male, skin and skull; Bafut-Ngemba Reserve, Mount Lefo, 1800–1900 m, SE Bamenda Highlands, W Cameroon, collected by W. Böhme and W. Hartwig, 6 Mar 1974, field no. 88.

Paratype. ZFMK 74.365, female, skin and skull, same locality, collectors and date as holotype. Another paratype was transferred to SMNS (now SMNS 32300).

Current name. *Colomys goslingi eisentrauti* Dieterlen, 1983.

Comments. The taxon deserves species status (Hutterer & Dieterlen, unpubl. data).

Colomys goslingi ruandensis Dieterlen, 1983

Bonn. zool. Beitr. 34: 89 (12 Sept)

Holotype. ZFMK 68.548, adult male, skin and skull; Rugege Forest, ca. 2300 m, Uinka, W Ruanda, collected by F. Dieterlen, 21 Aug 1964, field no. D 3450.

Paratypes. ZFMK 68.549 – 68.551, skins and skulls, same locality and collector as holotype.

Current name. *Colomys goslingi ruandensis* Dieterlen, 1983.

Dasymys incomptus longipilosus Eisentraut, 1963

Die Wirbeltiere des Kamerungebirges, Parey, Hamburg und Berlin, p. 132, fig. 30

Paratype. ZFMK 63.670, male, skin and skull; grasslands above Musake Hütte, Mount Cameroon, W Cameroon, collected by M. Eisentraut, 15 Feb 1954, field no. 169; received in exchange from SMNS (Mar 1979).

Current name. *Dasymys incomptus* (Sundevall, 1847), as in Musser & Carleton (2005), but may be a different form (Hutterer, unpubl.).

Comments. Holotype in SMNS.

Deomys ferrugineus poensis Eisentraut, 1965

Bonn. zool. Beitr. 16: 8 (1 Nov)

Holotype. ZFMK 64.1091, adult male, skin (prepared from specimen in spirit) and skull; Refugio, Bioko, Equatorial Guinea, collected by Leon Martin Zambo, July 1964, field no. 691.

Paratypes. ZFMK 66.796, in spirit, field no. 695; ZFMK 64.1092, male, skin and skull, field no. 692; ZFMK 64.1090, 64.1093, 64.1094, females?, all same locality, collector and date as holotype.

Current name. *Deomys ferrugineus* Thomas, 1888; taxonomic status not evaluated.

Comments. One skin out of this series is figured in colour in Eisentraut (1973: plate 1).

Desmodillus auricularis hoeschi Lehmann, 1955

Bonn. zool. Beitr. 6: 171 (31 Dec)

Holotype. ZFMK 55.76, male, skin and skull; Okatjongema, Namibia, collected by W. Hoesch, 22 Apr 1955, field no. 1279.

Paratypes. ZFMK 55.80, 55.466, males, skins and skulls, same locality and collector.

Current name. *Desmodillus auricularis* (Smith, 1834); see Petter (1971).

Desmodillus auricularis wolfi Lehmann, 1955

Bonn. zool. Beitr. 6: 172 (31 Dec)

Holotype. ZFMK 55.77, male, skin and skull; Vogelweide, Namibia, collected by W. Hoesch, 7 July 1954, field no. 1020.

Paratypes. ZFMK 55.81, 55.472, females, skins and skulls, same locality, collector and date.

Current name. *Desmodillus auricularis* (Smith, 1834); see Lehmann (1960) and Petter (1971).

Grammomys caniceps Hutterer & Dieterlen, 1984

Stuttg. Beitr. Naturk. A, 374: 12, figs. 1h, 2h, 3, 4, 5a, 6a, 7 (31 Dec)

Holotype. ZFMK 84.76, male, skin, skull, baculum and viscera in alcohol; Malindi (03°14'S, 40°05'E), Kenia, collected by F. Fröhlich, Sept 1982, in captivity until 24 May 1984.

Paratypes. 3 males (ZFMK 84.32, 84.34, 84.74) and 5 females (ZFMK 84.31, 84.33, 84.72, 84.75), all skins and skulls, offspring of imported animals.

Current name. *Grammomys caniceps* Hutterer & Dieterlen, 1984.

Comments. A further paratype in Stuttgart (SMNS 38200). ZFMK 84.34 is voucher for the karyotype of $2n = 56$, $NF = 78$.

Gerbillus (Gerbillurus) vallinus tytonis Bauer & J. Niethammer, 1960

Bonn. zool. Beitr. 10: 255, figs. 4–6 (10 Jan)

Holotype. ZFMK 59.515, complete skull, from a mummy; Sossus Vley, Namib, Namibia, collected by G. Niethammer, 18 Feb 1959, field no. 1152.

Paratypes. ZFMK 59.516, 6 skulls out of barn owl pellets, same locality, collector and date.

Current name. *Gerbillurus tytonis* (Bauer & J. Niethammer, 1960)

Comments. The year of publication is often given as 1959, but the relevant journal issue was published 10 Jan 1960.

Gerbillus (Dipodillus) dasyurus leosolliticus Lehmann, 1966

Zool. Beitr. (N.F.) 12: 288 (25 Oct)

Holotype. ZFMK 65.174, female, skin and skull; Deit-el-Hajar, 25 km SE Damascus, Syria, collected by H. Mittendorf, 22 Jan 1965, Coll. Kumerloeve no. 185.

Paratypes. ZFMK 65.175 – 65.177, 2 males, 1 female, skins and skulls, same locality and collector, Coll. Kumerloeve nos. 191–193.

Current name. *Dipodillus dasyurus* (Wagner, 1842); see Musser & Carleton (2005).

Gerbillus (Dipodillus) dasyurus palmyrae Lehmann, 1966

Zool. Beitr. (N.F.) 12: 288 (25 Oct)

Holotype. ZFMK 65.183, female, skin and skull; Palmyra, Syria, collected by H. Mittendorf, 2 Jan 1965, Coll. Kumerloeve no. 174.

Paratypes. ZFMK 65.184 – 65.186, 1 male, 2 females, skins and skulls, same locality and collector, Coll. Kumerloeve nos. 172, 173, 175.

Current name. *Dipodillus dasyurus* (Wagner, 1842); see Harrison (1972) and Musser & Carleton (2005).

Gerbillus foleyi Heim de Balsac, 1936

Bull. Biol. Fr. Belg., Suppl. 21: 317, 389, fig. 15

Paratype. ZFMK 60.85, skin and skull; Beni-abbès, Algeria, collected by H. Heim de Balsac, without date.

Current name. *Gerbillus gerbillus* (Olivier, 1801).

Hybomys eisentrauti Van der Straeten & Hutterer, 1986
Mammalia 50: 36, fig. 1

Holotype. ZFMK 74.377, adult male, skin and skull; Lake Bambului, Mount Lefo, 1800 m, Cameroon, collected by W. Böhme, 10 Mar 1974, field no. 115.

Paratypes. ZFMK 74.374, young adult male, 6 Mar 1974; ZFMK 74.375, adult male, 6 Mar 1974; ZFMK 74.376, young adult male, 9 Mar 1974; same collector and locality as holotype; ZFMK 69.175, adult male; Lake Oku, 2100 m, Mount Oku, Cameroon, collected by M. Eisen-
traut, 19 Jan 1967; all specimens skin and skull.

Current name. Not resolved; Musser & Carleton (1995) included it into *Hybomys badins* Osgood, 1936, while Mis-
soup (2010) used the combination *Hybomys rufocanus*
eisentranti Van der Straeten & Hutterer, 1986.

Hybomys univittatus basilii Eisen-
traut, 1965

Zool. Jb. Syst. 92: 20, figs. 1, 2

Holotype. ZFMK 63.670, adult male, skin and skull; Mo-
ca Valley, ca. 1200 m, Bioko, Equatorial Guinea, collect-
ed by M. Eisen-
traut, 16 Nov 1962, field no. 258.

Paratypes. 33 skins with skulls, ZFMK 64.275 – 64.279,
64.281 – 64.287, 64.289 – 64.308, 66.658, Fernando Póo
(=Bioko), Equatorial Guinea, same collector, Oct–Dec
1962; Moca Valley, field nos. 153, 154, 159, 166, 171, 172,
184–186, 198, 199, 200, 209, 225, 233, 253, 259, 264, 265,
277–279, 291, 295, 299, 689, 2 specimens without cata-
logue no.; Refugium, field nos. 359, 376–378, 459.

Current name. *Hybomys basilii* Eisen-
traut, 1965 (Van der
Straeten 1985).

Comments. In the original description Eisen-
traut (1965: 20) mentioned 34 more specimens in addition to the holo-
type. In Apr 1979 33 of these could be located in the
ZFMK collection. The missing specimen was very like-
ly given to Pater Basilio after whom this subspecies was
named. There are 15 more specimens in spirit in the
ZFMK collection. These were collected during Eisen-
traut's 1962/63 expedition but were not considered in the
context of the description. Further paratypes were deposit-
ed in SMNS and AMNH.

Hylomyscus aeta grandis Eisen-
traut, 1969

Z. Säugetierkd. 34: 300

Holotype. ZFMK 69.731, adult female, skin and skull;
Lager IV, 2100 m, Lake Oku, Bansa Highlands,
Cameroon, collected by M. Eisen-
traut, 22 Jan 1967, field
no. 391.

Paratypes. ZFMK 69.732 – 69.734, 1 male, 2 females,
skins and skulls, same locality and collector, 20–23 Jan
1967, field nos. 378, 394, 401.

Current name. *Hylomyscus grandis* Eisen-
traut, 1969 (see
Hutterer et al. 1992).

Hylomyscus alleni montis Eisen-
traut, 1969

Z. Säugetierkd. 34: 302

Holotype. ZFMK 66.372, adult male, skin and skull;
Refugium, 2000 m, Pico de Santa Isabel, Bioko, Equato-
rial Guinea, collected by M. Eisen-
traut, 22 Dec 1962, field
no. 406.

Paratypes. ZFMK 66.730, 66.731, 66.733 – 66.761,
66.691 – 66.693, 66.762 a, 35 skins and skulls, same lo-
cality, collector and date; ZFMK 69.664 – 69.669, 6 skins
and skulls, same locality and collector, 7 Oct 1966.

Current name. Uncertain; possibly *Hylomyscus montis*
Eisen-
traut, 1969 (RH, unpubl.).

Lemniscomys striatus mittendorfi Eisen-
traut, 1968

Bonn. zool. Beitr. 19: 7 (10 Apr)

Holotype. ZFMK 68.8, adult male, skin and skull; Lake
Oku, ca. 2100 m, Bansa Highlands, W Cameroon, collect-
ed by M. Eisen-
traut, 30 Jan 1967, field no. 452.

Paratypes. ZFMK 69.258 – 69.262, 2 males, 3 females,
skins and skulls, same locality and collector, 29 Jan – 11
Feb 1967, field nos. 463, 453, 455, 443, 464.

Current name. *Lemniscomys mittendorfi* Eisen-
traut,
1968; see Van der Straeten & Verheyen (1980).

Comments. In the text of his description Eisen-
traut men-
tions the elevation of the type locality as ca. 2300 m, in
the locality register and on the specimen label it is listed
as 2100 m. The holotype is figured in colour in Eisen-
traut (1973; pl. 3).

Lophuromys dieterleni Verheyen, Huls-
elmans, Colyn &
Hutterer, 1997

Bull. Inst. r. Sci. nat. Belg. Biol. 67: 173, figs. 2, 5

Holotype. ZFMK 68.289, adult male, skin and skull; Lake
Oku, Lager IV (06°12'N, 10°32'E), 2100m, Bamenda-
Bansa Highlands, W Cameroon, collected by M. Eisen-
traut, 21 Jan 1967, field no. 384.

Paratypes. ZFMK 69.286, 69.287 (adult females),
69.288, 69.290 (adult males), skins and skulls, same lo-
cality and collector as holotype, 17 – 31 Jan 1967, field
nos. 459, 347, 369, 389.

Current name. *Lophuromys dieterleni* Verheyen, Huls-
elmans, Colyn & Hutterer, 1997; see Musser & Carleton
(2005).

Comments. The status of this taxon was discussed by Mis-
soup (2010).

Lophuromys medicaudatus Dieterlen, 1975

Bonn. zool. Beitr. 26: 295, figs. 1–4 (Dec)

Paratypes. ZFMK 68.982 (male), 68.984 (female), skins
and skulls; Kahuzi, Democratic Republic of the Congo,
collected by F. Dieterlen, 11–13 Nov 1966, field nos. D
9069, D 9036; ZFMK 68.983, 68.985, 1 male, 1 female,
skins and skulls, Tshibati, Democratic Republic of the
Congo, same collector, 30 Mar 1966 and 7 Apr 1964, field
nos. D 7254, D 1884.

Current name. *Lophuromys medicaudatus* Dieterlen, 1975

Comments. Holotype in SMNS.

Lophuromys roseveari Verheyen, Hulselmans, Colyn & Hutterer, 1997

Bull. Inst. r. Sci. nat. Belg. Biol. 67: 167, figs. 2, 3

Holotype. ZFMK 69.297, female, skin and skull; Musake Hütte (04°08'N, 09°12'E), Mount Cameroon, 1850–2200 m, Cameroon, collected by M. Eisentraut, 18 Mar 1967, field no. 656.

Paratypes. ZFMK 69.292 (adult male), 69.302 (adult female), skins and skulls, Musake Hütte, Mount Cameroon, 1850–2200 m, field nos. 655, 658; ZFMK 69.293, 69.296, adult females, skins and skulls, Hütte II (04°11'N, 09°12'E), Mount Cameroon, 3000 m, Cameroon, field nos. 716, 712; ZFMK 61.790, adult male, skin and skull, Buea (04°09'N, 09°13'E), 1800 m, Cameroon, field no. 4; all collected by M. Eisentraut.

Current name. *Lophuromys eisentrauti roseveari* Verheyen, Hulselmans, Colyn & Hutterer, 1997; see Missouf (2010).

Lophuromys sikapusi eisentrauti Dieterlen, 1979

Bonn. zool. Beitr. 29: 296, figs. 1, 4 (30 Jan)

Holotype. ZFMK 74.436, adult male, skin and skull; slope of Mount Lefo, near Bamenda, Cameroon, collected by W. Böhme, 6 Mar 1974, field no. 81.

Paratype. ZFMK 74.437, juvenile to subadult female, skin and skull, same collector, locality and date as holotype, field no. 92.

Current name. *Lophuromys eisentrauti* Dieterlen, 1979.

Lophuromys sikapusi parvulus Eisentraut, 1965

Zool. Jb. Syst. 92: 24, figs. 3, 4

Holotype. ZFMK 63.669, adult female, skin and skull; Moca Valley, 1200 m, Bioko, Equatorial Guinea, collected by M. Eisentraut, 28 Oct 1962, field no. 165.

Paratypes. ZFMK 64.481 – 64.483, 1 male, 2 females, skins and skulls, same locality and collector as holotype, 30 Oct–16 Nov 1962, field nos. 173, 262, 178.

Current name. *Lophuromys nudicaudus* Heller, 1911.

Malpaisomys insularis Hutterer, López-Martínez & Michaux, 1988

Palaeovertebrata 18: 246, figs. 3–5, 7, plates 1, 2

Paratypes. ZFMK, yet uncounted and uncatalogued mandibles, maxillaries, and skeletal elements; all from type level CV-A1 at locality Cueva Villaverde near La Oliva (22°38'N, 10°12'30"W), Fuerteventura, Canary Islands, Spain; age 1070 ± 50 BP.

Current name. *Malpaisomys insularis* Hutterer, López-Martínez & Michaux, 1988.

Comments. Holotype in the Department of Palaentology, Universidad Complutense, Madrid (CV-188.1). Paratypes were distributed to AMNH, BMNH, CM, FMNH, SMF, and many other collections. Extinct species.

Mastomys verheyeni Robbins & Van der Straeten, 1989

Senckenberg. biol. 69: 4, figs. 1, 2

Paratypes. ZFMK 92.468 (male), 92.469 (female), both preserved in spirit with skulls extracted; Guemé, N Cameroon, both collected by members of RUCA, 23 Nov 1970, field nos. RUCA 162, 163.

Current name. *Mastomys kollmanspergeri* (Petter, 1957) (Musser & Carleton 2005).

Comments. Specimens were donated by E. Van der Straeten in 1992. Holotype and paratypes in SMF, further paratypes in RMCA.

Mus sylvaticus maximus Burg, 1925

Pallasia 3: 70

Lectotype. ZFMK 83.169, adult female, skin and skull; Bergell, Switzerland, collected by G. von Burg, Feb 1921.

Paralectotype. ZFMK 83.170, skin; Bergell, Switzerland, collected by G. von Burg, Mar 1923.

Current name. *Apodemus flavicollis* (Melchior, 1834); see Hutterer (1984).

Comments. The lectotype was designated by Hutterer (1984). Musser & Carleton (2005) listed this name under the synonymy of *A. sylvaticus* (Linnaeus, 1758). *Apodemus sylvaticus maximus* (Burg, 1925) is a senior homonym of the extinct taxon *Apodemus maximus* Thaler, 1972, described from the Pliocene of Sicily (Thaler 1972). A substitute name is therefore proposed for the fossil species: *Apodemus pellegrinoides* Hutterer nom. nov. (pro *Apodemus maximus* Thaler, 1972, not *Apodemus sylvaticus maximus* (Burg, 1925)).

Oenomys hypoxanthus albiventris Eisentraut, 1968

Bonn. zool. Beitr. 19: 8 (10 Apr)

Holotype. ZFMK 68.9, adult male, skin and skull; Lager IV, ca. 2100 m, Lake Oku, Bansa Highlands, W Cameroon, collected by M. Eisentraut, 23 Jan 1967, field no. 397.

Paratypes. ZFMK 69.196 – 69.198, 1 male, 2 females, skins and skulls, same locality and collector, 25 Nov 1966–2 Feb 1967, field nos. 171, 465, 395.

Current name. Included in *Oenomys hypoxanthus* (Pucheran, 1855) by Musser & Carleton (2005), but this form requires a re-consideration.

Comments. Holotype figured in colour in Eisentraut (Bonn. zool. Monogr. 3: plate 3, 1973).

Otomys occidentalis Dieterlen & Van der Straeten, 1992
Bonn. zool. Beitr. 43: 386, figs. 2–4

Paratypes. ZFMK 69.218, female, skin and skull; Mount Oku, 2100 m, Cameroon, collected by M. Eisentraut, 28 Jan 1967; ZFMK 88.139, ZFMK 88.140, females, skins and skulls, Gangirwal, Gotel Mountains, Nigeria, collected by G. Nikolaus, 18 and 20 Mar 1988.

Current name. *Otomys occidentalis* Dieterlen & Van der Straeten, 1992

Comments. The holotype SMNS 41336 consists of a skull, the skin is lost.

Praomys hartwigi Eisentraut, 1968

Bonn. zool. Beitr. 19: 8 (10 Apr)

Holotype. ZFMK 68.7, adult female, skin and skull; Lager IV, Lake Oku, Bansa Highlands, W Cameroon, collected by M. Eisentraut, 24 Jan 1967, field no. 402.

Paratypes. ZFMK 69.1073, 69.1075, 69.1077–69.1079, 69.1081, 2 males, 4 females, skins and skulls, same locality and collector, 20–26 Jan 1967, field nos. 399, 396, 409, 377 a, 385, 386; ZFMK 69.1074, 69.1076, 1 male, 1 female, skins and skulls, Lager III, ca. 1800 m, Lake Manenguba, same collector, 2–4 Jan 1967, field nos. 316, 323.

Current name. *Praomys hartwigi* Eisentraut, 1968.

Comments. One paratype (ZFMK 69.1072) was transferred in exchange to SMNS.

Praomys hartwigi obscurus Hutterer & Dieterlen, 1992
Bonn. zool. Beitr. 43: 402, figs. 1, 2 (21 Oct)

Holotype. ZFMK 88.115, adult female, skin and skull; Gangirwal, 2300 m, Gotel Mountains, SE Nigeria, collected by G. Nikolaus, 16 Mar 1988, field no. (GN5).

Paratypes. 10 specimens, ZFMK 88.114, 88.116–88.124, same locality and collector as holotype, 15–20 Mar 1988; 6 specimens, ZFMK 88.125–88.130, Chappal Waddi, 1900 m, same collector, 21–23 Mar 1988.

Current name. *Praomys obscurus* Hutterer & Dieterlen, 1992 (Musser & Carleton 2005).

Comments. Described in Hutterer, Dieterlen & Nikolaus (1992). Additional paratypes in SMNS.

Praomys petteri Van der Straeten, Lecompte & Denys, 2003

Bonn. zool. Beitr. 50: 333, figs. 2, 3 (24 Feb)

Paratypes. ZFMK 70.146 (male), 70.147 (female), 92.318–92.322 (2 males, 3 females), all preserved in spirit with skulls extracted; all from breeding colony of F. Petter (Paris), from animals collected 1968 at Boukoko, Central African Republic.

Current name. *Praomys petteri* Van der Straeten, Lecompte & Denys, 2003.

Comments. The specimens are from the breeding colony of “*P. morio*” which yielded the karyotype of $2n = 42$ (Petter 1965).

Rattus rattus povolvnyi J. Niethammer & Martens, 1975
Z. Säugetierkd. 40: 344

Holotype. ZFMK 78.001, male, skin and skull; Dar-i-Nur, near Djalalabad, 1200 m, E Afghanistan, collected by J. Niethammer, 18 Apr 1966, field no. A 1230.

Paratypes. ZFMK (not catalogued), 9 specimens, same data as holotype, field nos. A 1223, A 1225, A 1229, A 1531, A 1534, A 1584–1587.

Current name. *Rattus tanezumi* Temminck, 1844; see Musser & Carleton (2005).

Comments. All specimens were collected in houses (field notes of J. Niethammer).

Thammomys rutilans poensis Eisentraut, 1965

Zool. Jb. Syst. 92: 26, fig. 5

Holotype. ZFMK 63.668, adult male, skin and skull; Moca Valley, 1200 m, Bioko, Equatorial Guinea, collected by M. Eisentraut, 7 Nov 1962, field no. 209 a.

Paratypes. ZFMK 64.484–64.487, females, skins and skulls, field nos. 292 (29 Nov), 226 (9 Nov), 683 (3 Nov 1962), all same locality and collector as holotype; ZFMK 66.795, specimen in spirit, same locality and collector, 11 Nov 1962, field no. 229; ZFMK 64.486, skin and skull, shrub willow area above Moca, ca. 1500 m, same collector, 11 Mar 1963, field no. 683.

Current name. *Grammomys poensis* (Eisentraut, 1965).

Comments. *Grammomys poensis* replaces the better known *G. rutilans* which is not available (Hutterer, in Musser & Carleton 2005).

Octodontidae

Octodon pacificus Hutterer, 1996

Z. Säugetierkd. 59: 28, figs. 1–6

Holotype. ZFMK 92.384, adult female, skin and skull; Isla Mocha, Arauco Province, Chile, collected by Francisco Behn, 16 Jan 1959, field no. L6. Skull lacks occipital and bullae.

Paratypes. 3 skins and skulls, ZFMK 92.383, adult female, and ZFMK 92.385–6, two juveniles, collected by F. Behn at the type locality between 11 and 24 Jan 1959.

Current name. *Octodon pacificus* Hutterer, 1996.

Comments. The species is most probably extinct, the type specimens obtained in 1959 being the first and last record of a living animal. A survey of mammals on Isla Mocha yielded no trace of this species, however, remains were found in an archaeological excavation (Saavedra et al. 2003).

CONCLUSIONS

This catalogue presents the status of the ZFMK mammal collections in 2010. 77 holotypes, 5 syntypes, 2 lectotypes, and 1 neotype are listed. In addition, paratypes or paralectotypes for 105 taxa are included. The number of type specimens will increase in the future, as more species of mammals will be described, based on ZFMK material. This is particularly true for Africa, where new species of mammals are frequently being discovered (Hoffmann et al. 2009).

Some issues concerning type material could not yet be resolved, but may be so in the future. For example, Groves (2003) mentioned unspecified material in "Museum Alexander Koenig (Bonn)" that served for his description of *Gazella benettii salinarum* Groves, 2003. We were not able to trace such material so far. The description of *Suncus hututsi* Kerbis Peterhans & Hutterer, 2009 includes a statement that one paratype will be deposited in the ZFMK (Kerbis Peterhans & Hutterer 2009) but this has not been done yet.

Numerous vouchers for karyotypes still have to be identified. For example, specimens of European and Asian *Mus* and *Vandeleuria* were used by Gropp et al. (1969, 1970, 1973) to analyze their karyotypes, as were specimens of *Mus* from Sicily by Lehmann & Radbruch (1977). Also GenBank voucher specimens will have to be identified in order to link published sequences with vouchers in the Bonn collection. This is one of the next goals to be achieved.

GEOGRAPHIC ORIGIN OF TYPE SPECIMENS (EXCLUDING CASTS)

Afghanistan

Rattus rattus povolnyi J. Niethammer & Martens

Algeria

Gerbillus foleyi Heim de Balsac

Australia

Megaderma gigas Dobson

Austria

Sorex araneus wettsteini Bauer

Bosnia and Herzegovina (former Yugoslavia)

Crocidura suaveolens balcanica Ondrias

Brazil

Sciurus ingrami sebastiani Müller & Vesmanis

Bulgaria

Clethrionomys glareolus pirinus Wolf

Muscardinus avellanarius kroeckii G. Niethammer &

Bohmann

Cameroon

Colomys goslingi eisentranti Dieterlen

Crocidura flavescens bneae Heim de Balsac & Barloy

Crocidura manengbae Hutterer

Crossarchus platycephalus Goldman

Dasymys incomptus longipilosus Eisentraut

Hipposideros camerunensis Eisentraut

Hybomys eisentranti Van der Straeten & Hutterer

Hylomyscus aeta grandis Eisentraut

Lemniscomys striatns mittendorfi Eisentraut

Lophuromys dieterleni Verheyen, Hulselmans, Colyn &

Hutterer

Lophuromys roseveari Verheyen, Hulselmans, Colyn &

Hutterer

Lophuromys sikapusi eisentranti Dieterlen

Mastomys verheyeni Robbins & Van der Straeten

Myosorex eisentranti okuensis Heim de Balsac

Myosorex eisentranti rumpii Heim de Balsac

Oenomys hypoxanthus albiventris Eisentraut

Otomys occidentalis Dieterlen & Van der Straeten

Paracrociodura schoutedeni camerunensis Heim de

Balsac

Pipistrellus eisentranti Hill

Praomys hartwigi Eisentraut

Rousettus aegyptiacus occidentalis Eisentraut

Sylvisorex granti camerunensis Heim de Balsac

Sylvisorex silvanorum Hutterer, Riegert & Sedláček

Central African Republic

Praomys petteri Van der Straeten, Lecompte & Denys

Chile

Octodon pacificus Hutterer

Colombia

Platyrrhinus chocoensis Alberico & Velasco

Czech Republic

Amblyotus atratus Kolenati

Democratic Republic of the Congo

Crocidura kivuana Heim de Balsac

Crocidura lanosa Heim de Balsac

Crocidura littoralis stenocephala Heim de Balsac

Lophuromys medicandatus Dieterlen

Sylvisorex akaibei Mukinzi, Hutterer & Barriere

Ecuador

Nesoryzomys fernandinae Hutterer & Hirsch

Equatorial Guinea

Deomys ferrugineus poensis Eisentraut

Hybomys univittatus basilii Eisentraut

Hylomyscus alleni montis Eisentraut

Lophuromys sikapusi parvulus Eisentraut

Myosorex eisentranti Heim de Balsac

Sylvisorex morio isabellae Heim de Balsac

Thammomys rutilans poensis Eisentraut

Ethiopia

Crocidura flavescens hansruppi Hutterer

- France
Plecotus alpinus Kiefer & Vcith
- Germany
Apodemus agrarius henrici Lehmann
Apodemus flavicollis alpinus Heinrich = *Apodemus flavicollis alpicola* Heinrich
Neomys anomalus rhenanus Lehmann
Pitymys bavaricus König
Sorex araneus huelleri Lehmann
Sorex minutus becki Lehmann
- Greece
Crocidura ariadne Pieper
- Guinea
Crocidura (bottegi) obscurior Heim de Balsac
Genetta bourloni Gaubert
Rhinolophus denti knorri Eisentraut
Rhinolophus landeri guineensis Eisentraut
Rhinolophus ziama Fahr, Vierhaus, Hutterer & Kock
- India
Gazella benettii salinarum Groves
- Indonesia
Rhinolophus sumatranus K. Andersen
- Italy
Apodemus flavicollis sicilianus Lehmann & Schaefer
Apodemus tauricus geminae Lehmann
Clethrionomys glareolus curcio Lehmann
Clethrionomys glareolus garganicus Hagen
Crocidura sicula aegatensis Hutterer
Crocidura snaveolens bruecheri Lehmann
Dinops cestoni Savi
Dryomys nitedula aspromontis Lehmann
Microtus savii niethammericus Contoli
Pitymys savii brachycercus Lehmann
Sorex araneus silanus Lehmann
Sorex etruscus Savi
Talpa romana wittei Capolongo
Vespertilio bonapartii Savi
Vulpes vulpes toschiei Lehmann
- Kenya
Grammomys caniceps Hutterer & Dieterlen
- Liberia
Genetta (Paragenetta) lehmanni Kuhn
Liberiictis knlmi Hayman
- Liechtenstein
Sorex minutus becki Lehmann
- Malta
Crocidura sicula calypso Hutterer
- Montenegro (former Yugoslavia)
Dryomys nitedula diamesus Lehmann
Talpa caeca steini Grulich
Talpa stankovici montenegrina Kryštufek
- Namibia
Desmodillus auricularis hoeschi Lehmann
Desmodillus auricularis wolffi Lehmann
Elephantulus intufi omahekensis Lehmann
- Eremitalpa granti namibensis* Bauer & J. Niethammer
Gerbillus (Gerbillurus) vallinus tytonis Bauer & J. Niethammer
Petromys collinus kurzi Lehmann
Pronolagus randensis waterbergensis Hoesch & Lehmann
- Nigeria
Crocidura yankariensis Hutterer & Jenkins
Praomys hartwigi obscurus Hutterer & Dieterlen
Sylvisorex corbeti Hutterer & Montermann
- Oman
Crocidura arabica Hutterer & Harrison
- Paraguay
Cabassous chacoensis Wetzel
- Republic of the Congo
Congosorex verheyeni Hutterer, Barriere & Colyn
- Republic of the Philippines
Crocidura batakorum Hutterer
Crocidura panayensis Hutterer
- Russia
Alces alces pfizenmayeri Zukowsky
Lagomys ater Eversmann
- Rwanda
Colomys goslingi ruandensis Dieterlen
Sylvisorex vulcanorum Hutterer & Verheyen
- Senegal
Crocidura lamottei elegans Hutterer
- Serbia (former Yugoslavia)
Rhinolophus ferrumequinum martinoidi Petrov
- Spain
Crocidura canariensis Hutterer, López-Jurado & Vogel
Crocidura osorio Molina & Hutterer
Felis catus jordansi Schwarz
Malpaisomys insularis Hutterer, López-Martínez & Michaux
Neomys fodiens niethammeri Bühler
Plecotus auritus hispanicus Bauer
Sciurus vulgaris hoffmanni Valverde (= *Sciurus vulgaris valverdei* nom. nov.)
- Switzerland
Mus sylvaticus maximus Burg
- Syria
Gerbillus (Dipodillus) dasymrus leosolliticus Lehmann
Gerbillus (Dipodillus) dasyurus palmyrae Lehmann
- Tanzania
Congosorex phillipsorum Stanley, Rogers & Hutterer
Crocidura tansaniana Hutterer
Crocidura telfordi Hutterer
Myosorex kihaulei Stanley & Hutterer
- Tunisia
Erinaceus algirus girbaensis Vesmanis
- Turkey
Acomys cilicius Spitzenberger
Microtus anatolicus Kryštufek & Kefelioğlu
Muscardinus avellanarius abanticus Kivanç

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